ORDER NO. MD9606041C3

Service Manual

CD Stereo System

SA-CH94M

Colour

(K) . . . . Black Type

Area

Suffix for Model No.	Area	Colour
(GC)	Asia, Latin America, Africa and Middle Near East	(K)
(GCS)	Singapore	
(GT)	Taiwan	

*MASH is a trademark of NTT.

Remote Control Transmitter
SB-CH94
SA-CH94M
SB-CH94

TAPE SECTION : AR-2 MECHANISM SERIES
CD SECTION : RAE0150Z TRAVERSE DECK SERIES

SPECIFICATIONS\ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ
OPERATION CHECKS AND MAIN COMPONENT REPLACEMENT\ПРОВЕРКА РАБОТОСПОСОБНОСТИ И ЗАМЕНА ОСНОВНЫХ УЗЛОВ
MEASUREMENTS AND ADJUSTMENTS\ИЗМЕРЕНИЯ И РЕГУЛИРОВКИ
CD TEST MODE\РЕЖИМ ПРОВЕРКИ CD
SELF DIAGNOSTIC DISPLAY FUNCTION\ИСПОЛЬЗОВАНИЕ ИНДИКАЦИИ САМОДИАГНОСТИКИ
TERMINAL GUIDE OF ICs, TRANSISTORS AND DIODES\ЦОКОЛЕВКА ИНТЕГРАЛЬНЫХ МИКРОСХЕМ, ТРАНЗИСТОРОВ И ДИОДОВ
BLOCK DIAGRAMS\БЛОК-СХЕМЫ
TERMINAL FUNCTION OF ICs\ФУНКЦИОНАЛЬНОЕ НАЗНАЧЕНИЕ ВЫВОДОВ ИНТЕГРАЛЬНЫХ МИКРОСХЕМ
SCHEMATIC DIAGRAMS\ПРИНЦИПИАЛЬНЫЕ СХЕМЫ
WIRING CONNECTION DIAGRAM\СХЕМА СОЕДИНЕНИЯ МОНТАЖНЫХ ПЛАТ
LOADING MECHANISM PARTS LOCATION\РАСПОЛОЖЕНИЕ ЧАСТЕЙ ЗАГРУЗОЧНОГО МЕХАНИЗМА
LOADING MECHANISM PARTS LIST\СПИСОК ЧАСТЕЙ ЗАГРУЗОЧНОГО МЕХАНИЗМА
MECHANISM PARTS LOCATION (RAA3404)\РАСПОЛОЖЕНИЕ ЧАСТЕЙ МЕХАНИЗМА (RAA3404)
MECHANISM PARTS LIST\СПИСОК ЧАСТЕЙ МЕХАНИЗМА
CABINET PARTS LOCATION\РАСПОЛОЖЕНИЕ ЧАСТЕЙ КОРПУСА
REPLACEMENT PARTS LIST\СПИСОК ЗАПАСНЫХ ЧАСТЕЙ
RESISTORS AND CAPACITORS\РЕЗИСТОРЫ И КОНДЕНСАТОРЫ
PACKAGING\УПАКОВКА

System	Music Center	Speakers
SC-CH94MGC	SA-CH94MGC	SB-CH94GC
SC-CH94MGCS	SA-CH94MGCS	
SC-CH94MGT	SA-CH94MGT	

Panasonic

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■ Specifications

■ Amplifier Section

1 kHz continuous power output,	
both channels driven	2 x 90W (THD 1%, 4Ω)
RMS (1kHz)	2 x 100W (THD 10%, 4Ω)
PMPO	1600W (4Ω)
nput sensitivity	
AUX	250mV
MIC	0.6mV
Input impedance	
AUX	22kΩ
MIC	680Ω

■ FM Tuner Section

Frequency range	87.5 — 108.0MHz
Sensitivity	23.3dBf (4.0µV, IHF '58)
Antenna terminal(s)	75Ω (unbalanced)

■ CD Section

Sampling frequency	44.1kHz
Decoding	16 bit linear
Beam source / wave length	Semiconductor laser / 780 nm
Number of channels	Stereo
S/N ratio	
SP OUT	85dB (JIS.A)
Wow and flutter	Below measurable limit
Digital filter	8 fs
D/A converter	MASH (1 bit DAC)

■ AM Tuner Section

Frequency range	
MW	531 — 1602kHz (9kHz steps) 530 — 1600kHz (10kHz steps)
SW	3.2 — 7.300MHz 9.5 — 21.850MHz
Sensitivty (S/N 20 dB)	500µV/m

■ Cassette Deck Section

Track system	4 track, 2 channels
Heads	
Record/playback	Solid permalloy head
Erasure	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias 100 kHz
Erasing system	AC erase
Tape speed	4.8cm/sec. (1$^{7}/_{8}$ ips)
Frequency response (EIAJ) at PHONES OUT	
NORMAL	35Hz — 14kHz
CrO_2	35Hz — 14kHz
S/N ratio	
Dolby NR off	50dB (A weighted)
Dolby NR on	60dB (CCIR)
Wow and flutter	0.18% (WRMS)
Fast forward and rewind time	Approx. 120 seconds with C-60 cassette tape

■ General

Power consumption	290W
Power supply	
for GCS	AC 230V, 50Hz
for GC, GT	AC 110 / 127 / 220 / 240V, 50 / 60 Hz
Dimensions (W x H x D)	270 x 347 x 434mm
Weight	13.2kg

Notes :

1. Specifications are subject to change without notice.
   Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

System	Music Center	Speakers
SC-CH94MGC	SA-CH94MGC	SB-CH94GC
SC-CH94MGCS	SA-CH94MGCS	
SC-CH94MGT	SA-CH94MGT	

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■ Operation Checks and Main Component Replacement Procedures

"ATTENTION SERVICER" Some chassis components may have sharpe edges. Be careful when disassembling and serving.

Warning : This product uses a laser diode. Refer to caution statements on page 2.

ACHTUNG :
- Die lasereinheit nicht zerlegen.
- Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.
3. Select items from the following index when checks or replacement are required.

• Contents

page

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• Disassembly of the Loading Unit, Operational Parts and Traverse Unit.

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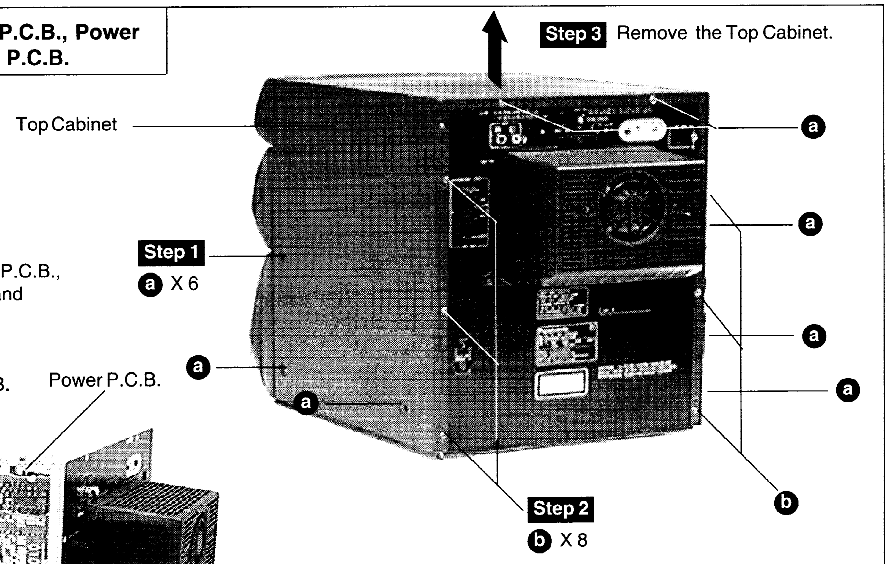
2. Disassembly of the Disc Guide (L), Return Lvr A, Rear Feed Lvr, Guide Lvr, Feed Sub Lvr and Front Feed Lvr. 7 ~ 8
3. Disassembly of the Traverse Unit. 9
• Replacement of the Traverse Deck 9

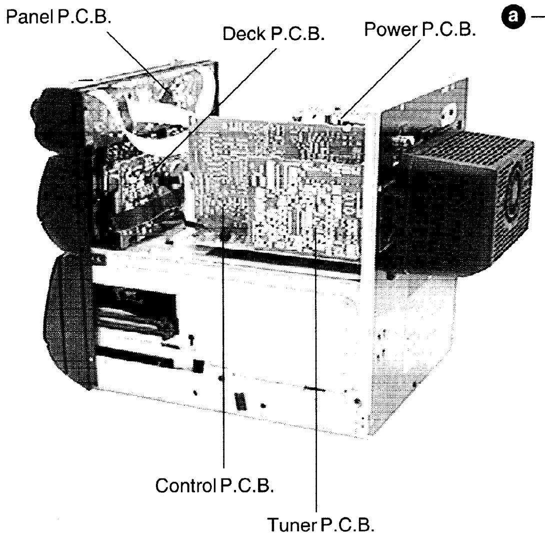
■ Checking Procedure for Major P.C.B.

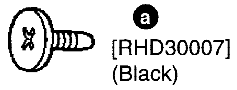
1. Checking of Tuner P.C.B., Deck P.C.B., Power P.C.B., Control P.C.B. and Panel P.C.B.

Step 3 Remove the Top Cabinet.

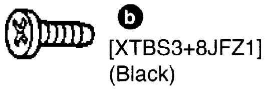


Step 4 Check the Tuner P.C.B., Deck P.C.B., Power P.C.B., Control P.C.B. and Panel P.C.B. as shown below.





[RHD30007]
(Black)

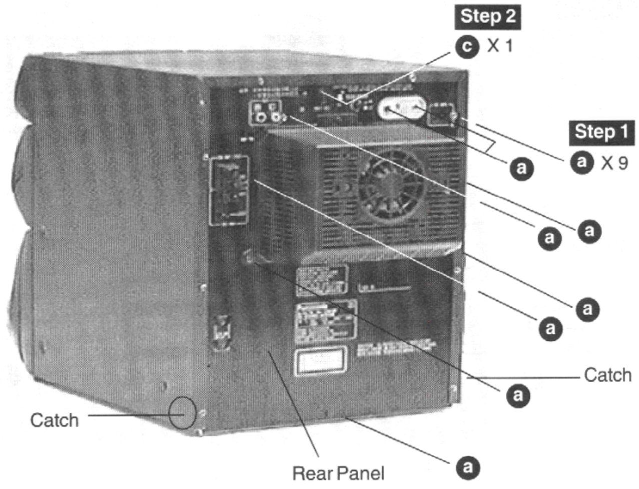


[XTBS3+8JFZ1]
(Black)

2. Checking of Main P.C.B.

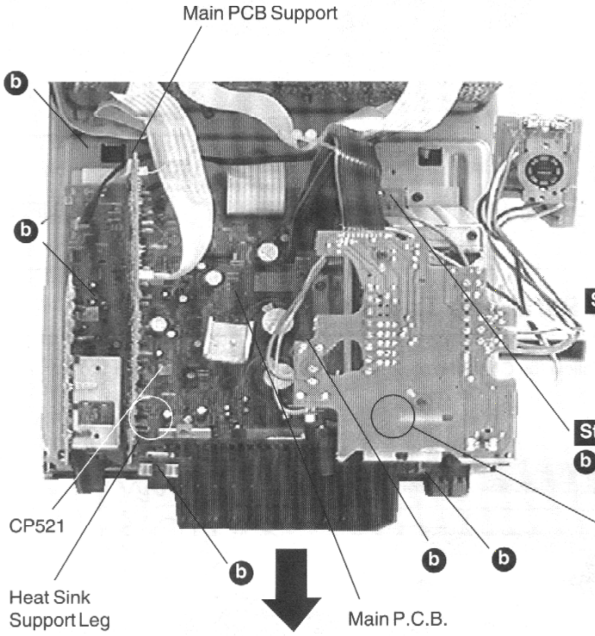
Step 3 Follow the Checking of Tuner P.C.B., Deck P.C.B., Power P.C.B., Control P.C.B. and Panel P.C.B. procedures from Step 1 to 3.

Step 4 Release the two catches and remove the rear panel.



Step 2
c X 1
Step 1
a X 9
a
a
a
a
a
a
a
Catch
Catch
Rear Panel
a

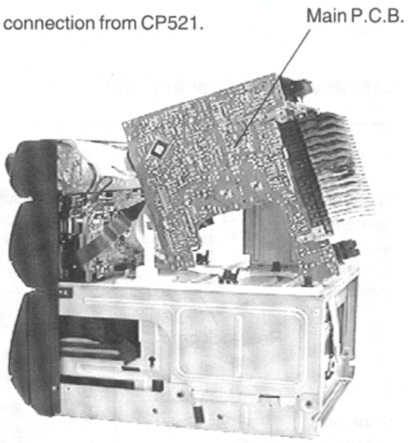
Step 5 Remove the connection from CP521.



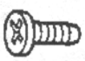
Main PCB Support
b
b
CP521
Heat Sink Support Leg
b
b
b
Main P.C.B.
Heat Sink Support Leg

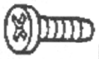
Step 6
b X 6

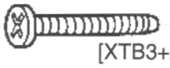
Step 7
Slide the Main P.C.B. backwards and remove it.
(Take note of the Main PCB Support and the two Heat Sink Suppport Legs)



Step 8 Position and check the Main P.C.B. as shown on the right.

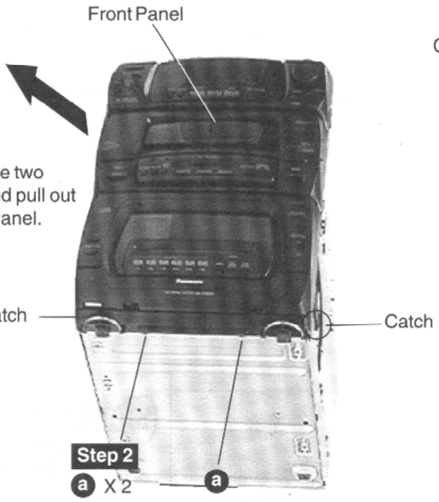

c
[XYN3+C6FZ]
(Black)


a
[XTBS3+8JFZ1]
(Black)


b
[XTB3+20J]
(Black)

3. Checking of Servo P.C.B.

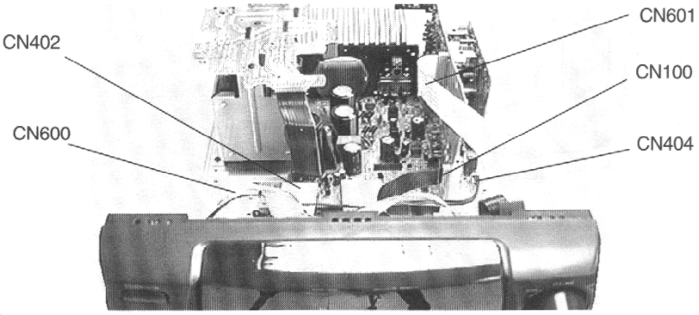
Step 1 Follow the Checking of Main P.C.B. procedures from Step 1 to 5.



Front Panel
Catch
Catch
a

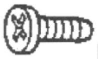
Step 2
a X 2

Step 3
Release the two catches and pull out the Front Panel.

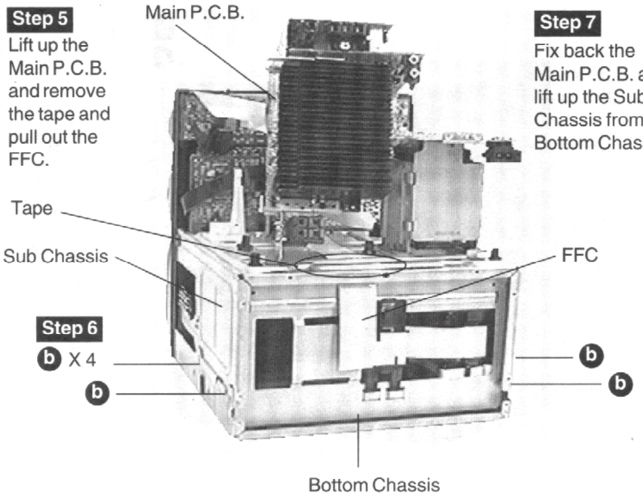


CN402
CN600
CN601
CN100
CN404

Step 4 Disconnect the connections from CN600, CN402, CN100,CN601 and CN404.

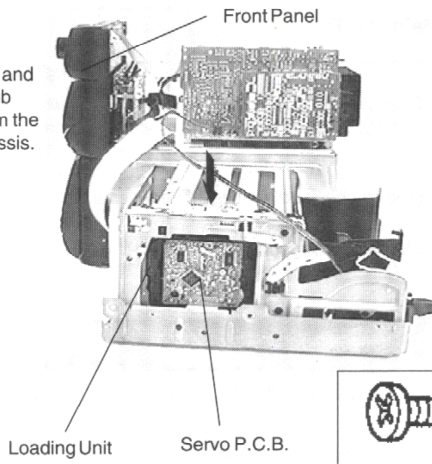

a
[XTBS3+8JFZ1]
(Black)

Step 5 Lift up the Main P.C.B. and remove the tape and pull out the FFC.

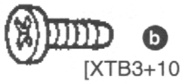

Main P.C.B.
Tape
Sub Chassis
FFC
b
b
b
Bottom Chassis

Step 6 b X 4

Step 7 Fix back the Main P.C.B. and lift up the Sub Chassis from the Bottom Chassis.


Front Panel
Loading Unit
Servo P.C.B.

Step 8 Fix back the Front Panel and connect back the connections for CN600, CN402, CN601, CN100, CN404. Push the Loading Unit to the extreme left (as shown on the right) and check the Servo P.C.B.



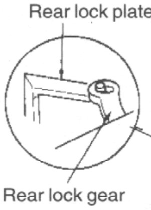
[XTB3+10JFZ]
(Black)

■ Disassembly of the Loading Unit, Operational Parts and Traverse Unit.

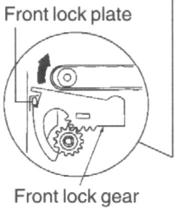
1. Disassembly of the Loading Unit

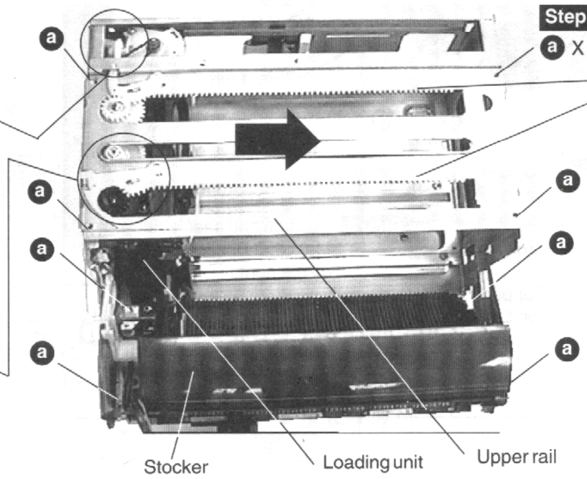
Step 1 Follow the Checking of Servo P.C.B. procedures from Step 1 to 8.

Take note of the rear lock plate and the rear lock gear during disassembly and assembly.

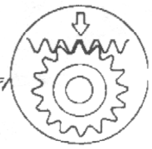

Rear lock plate
Rear lock gear

Step 3 Unlock the loading unit by moving the front lock gear manually in the direction of arrow


Front lock plate
Front lock gear

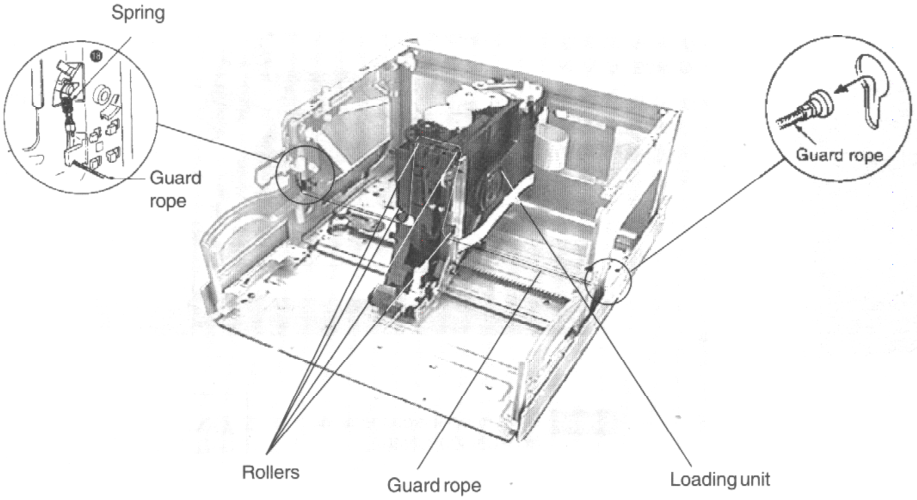

a
a
a
a
a
a
a
Stocker
Loading unit
Upper rail

Step 2 a X 8



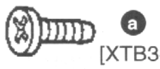
Step 4 Move the loading unit manually in the right direction. (Move the loading unit beyond the center of the frame.)
The pointers on the frame (shown above) are for checking purposes during assembly.

Step 5 Remove the upper rail and the stocker.


Spring
Guard rope
Guard rope
Rollers
Guard rope
Loading unit

Step 6 Remove the guard rope.

Step 7 Remove the Loading unit.



[XTB3+6F]
(Brass)

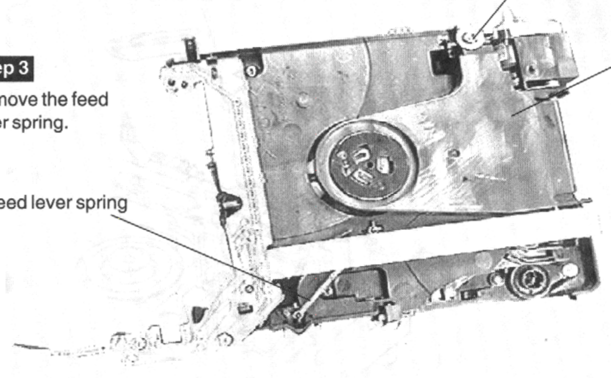
2. Disassembly of the Disc Guide (L), Return Lever A, Rear Feed Lever, Guide Lever, Feed Sub Lever and Front Feed Lever.

Step 1 Follow the Disassembly of the Loading Unit procedures from Step 1 to 7.

Step 2 ⓐ X 1

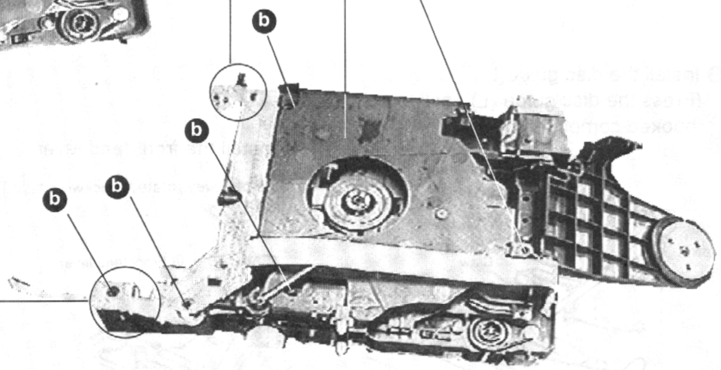
Step 3 Remove the feed lever spring.

Step 4 Tilt the clamp plate backward.


Clamp plate
Feed lever spring

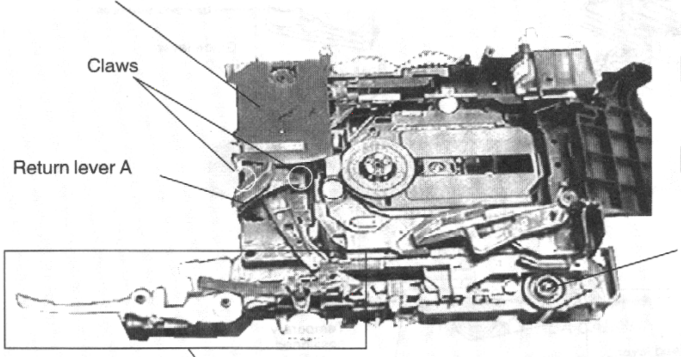
Step 5 ⓑ X 5

Step 6 Remove the disc guide (R).
(Do not touch the LED or the photo coupler by hand.)

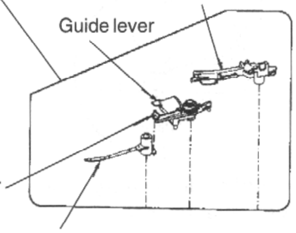

Disc guide (R)
LED
ⓑ
ⓑ
ⓑ
ⓑ
Photo coupler

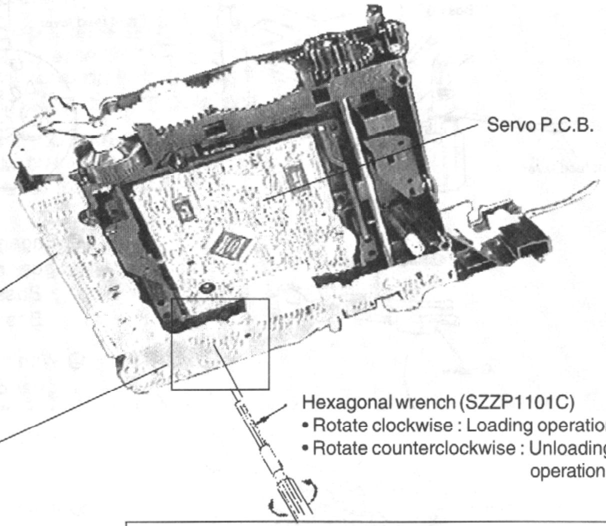
Step 7 Rotate the pulley (or rotate with 2mm hexagonal wrench, SZZP1101C, as shown below) clockwise inorder to shift the return lever A away from the disc guide (L).

Step 8 Release the 2 claws and then remove the disc guide (L).
Note : Some of the operational parts can be removed easily (eg. return lever A, rear feed lever, guide lever, feed sub lever and front feed lever).

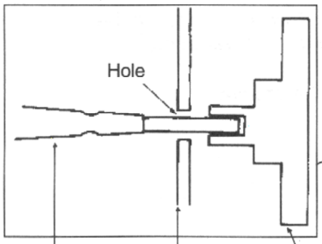

Disc guide (L)
Claws
Return lever A

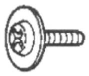
Pulley
- Rotate clockwise : Loading operation
- Rotate counterclockwise : Unloading operation


Rear feed lever
Guide lever
Feed sub lever
Front feed lever

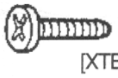

Servo P.C.B.
Motor P.C.B.

Hexagonal wrench (SZZP1101C)
- Rotate clockwise : Loading operation
- Rotate counterclockwise : Unloading operation


Hole
Hexagonal wrench (SZZP1101C)
Motor P.C.B.
Reduction gear



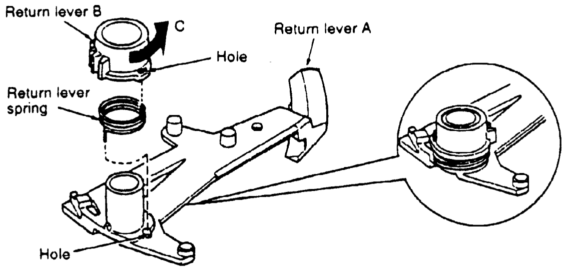
ⓐ [XTWS3+10T] (Black)



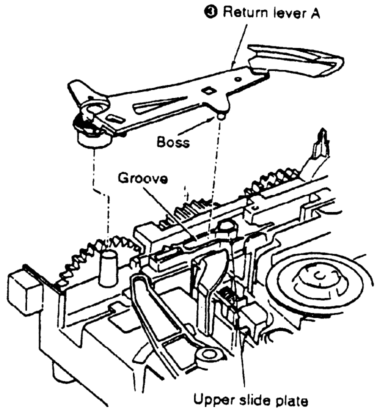
ⓑ [XTBS26+10J] (Black)

Reassembly ❶ Rotate the pulley clockwise fully.

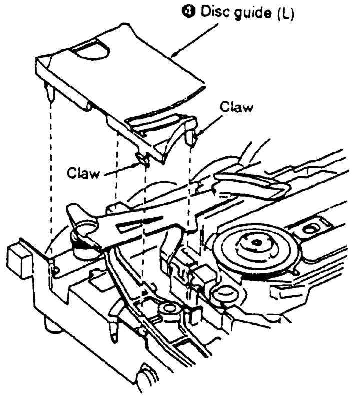
❷ Align the both ends of the spring with the holes of return lever A and B and then, install the return lelver A with rotating the return lever B in the direction of arrow (➡) C.


Return lever B
C
Hole
Return lever A
Return lever spring
Hole

❸ Install the return lever A.
(Align the boss of return lever A with the groove of upper slide plate.)

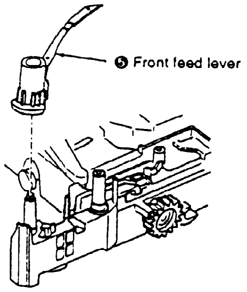

❸ Return lever A
Boss
Groove
Upper slide plate

❹ Install the disc guide(L).
(Press the disc guide (L) untill the claws are hooked completely.)


❹ Disc guide (L)
Claw
Claw

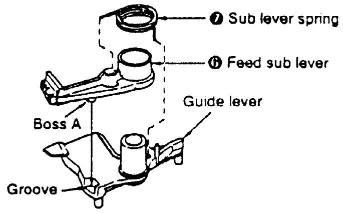
❺ Install the front feed lever.

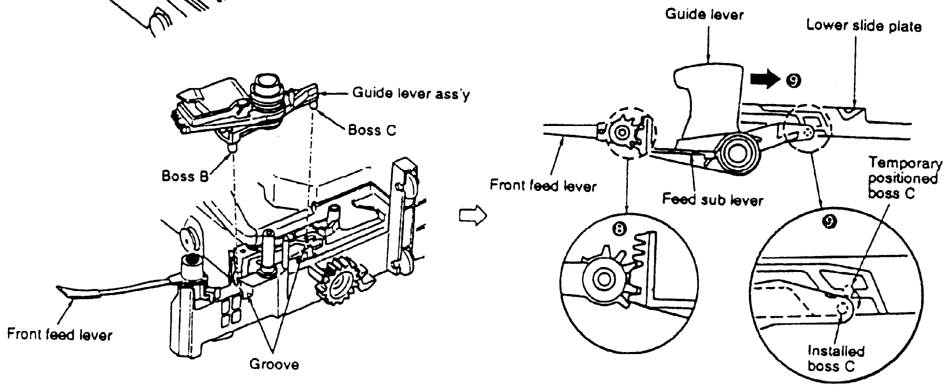
(The state of pulley rotated clockwise fully.)


❺ Front feed lever

❻ Install the feed sub laver to the guide lever.
- Align the boss A of feed sub lever with the groove of the guide lever.

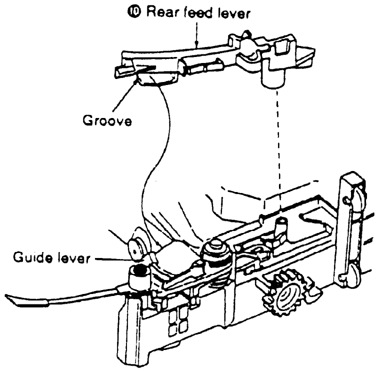
❼ Install the sub lever spring.


❼ Sub lever spring
❻ Feed sub lever
Guide lever
Boss A
Groove


Guide lever ass'y
Boss C
Boss B
Front feed lever
Groove
Guide lever
Lower slide plate
➡ ❾
Front feed lever
Feed sub lever
Temporary positioned boss C
❽
❾
Installed boss C

❽ Engage the gear of guide lever ass'y with the gear of front feed lever temporary.
- Boss B must be placed in the groove.
- Boss C must be run over the lower side plate.

❾ With fixing the gear by finger not to slip off the gear clench, rotate the guide lever in the direction of arrow.
- The boss C will fit in the groove.

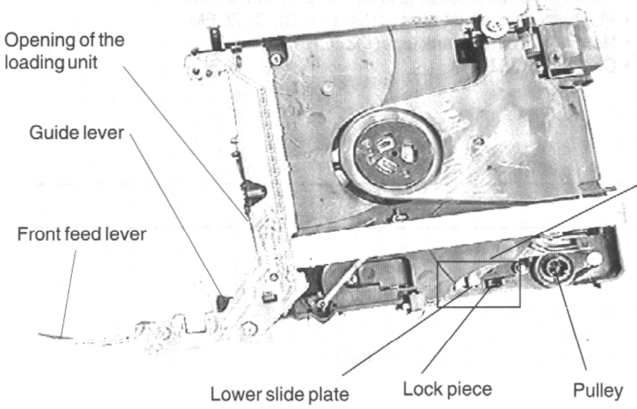

❿ Rear feed lever
Groove
Guide lever

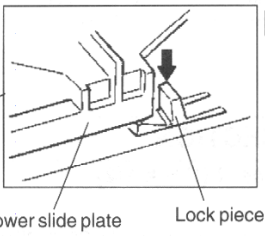
❿ Install the rear feed lever.
(Align the guide lever with the groove of rear feed lever.)

3. Disassembly of the Traverse Unit

Step 1 Follow the Disassembly of the Loading Unit procedures from Step 1 to 7.

Step 2 Rotate the pulley counterclockwise until the lower slide plate touches the lock piece.


Opening of the loading unit
Guide lever
Front feed lever
Lower slide plate
Lock piece
Pulley

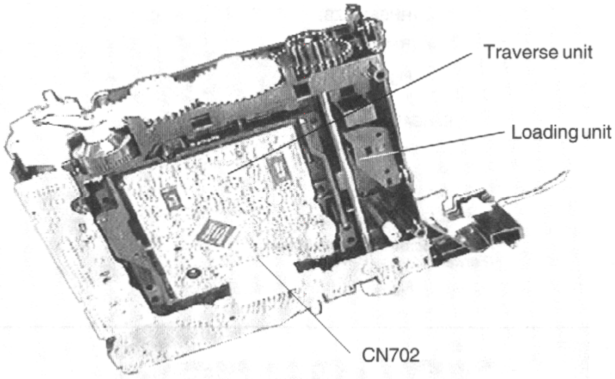

Lower slide plate
Lock piece

Step 3 Rotate the pulley counterclockwise fully with pressing the rib of lock piece. (The lower side plate runs over the lock piece.)

Step 4 Slide the lower slide plate manually until the lower slide plate touches the rib of lock piece.

Step 5 Remove the traverse unit from the loading unit.

Step 6 Remove the FFC from the connector, CN702.

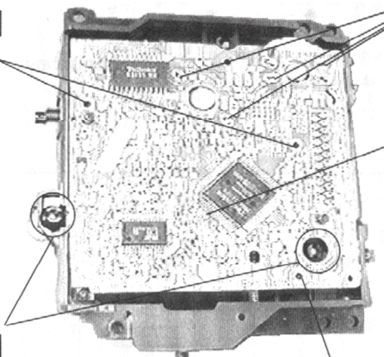

Traverse unit
Loading unit
CN702

Reassembly

Reverse the steps above. But during Step 3, push the guide lever towards the opening of the loading unit while rotating the pulley clockwise.

■ Replacement of the Traverse Deck

Step 1 Follow the Disassembly of the Traverse Unit procedures from Step 1 to 6.

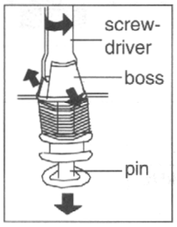


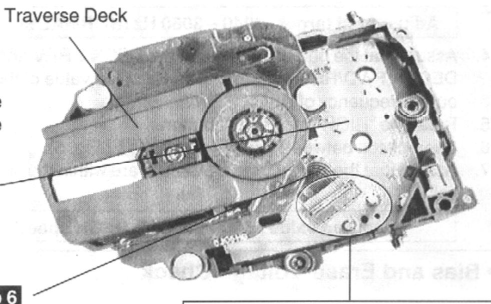
Step 2
ⓐ X 2

Step 3
ⓑ X 1

Step 4
Desolder the 4 legs of the 2 motors and pull out the Servo P.C.B.

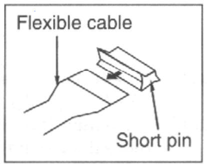
Step 5
Widen the 2 bosses with a flat screwdriver and pull out the 2 pins. Then remove the Traverse Deck.

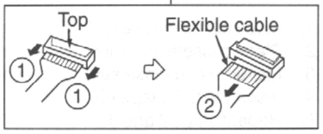

screw-driver
boss
pin


Traverse Deck

Step 6
Remove the flexible cable CN701.

Note :
Insert a short pin into the flexible cable for traverse unit.


Flexible cable
Short pin


Top
①
①
Flexible cable
②

- Removal of the flexible cable
Push the top of the connector in the direction of the arrow ①, and then pull out the flexible cable in the direction of the arrow ②.

ⓐ

[XTV2+6G] (Brass)

ⓑ

[XTN2+6G] (Brass)

Measurements and Adjustments

- Measurement Condition
  - Reverse-mode selector switch : ⊂⊃
  - Tape edit : NORMAL
  - Rec timer : OFF
  - Dolby NR : OFF
  - Make sure head, capstan and pressure roller are clean.
  - Judgeable room temperature 20 ± 5 °C (68 ± 9 °F)
- Measuring instrument
  - EVM (Electronic Voltmeter)
  - Digital frequency counter
- Test tape
  - Head azimuth adjustment (8 kHz, –20 dB); QZZCFM
  - Tape speed adjustment (3 kHz, –10 dB); QZZCWAT
  - Playback gain adjustment (315 Hz, 0 dB); QZZCFM
  - Normal reference blank tape; QZZCRA
  - CrO_2 tape; QZZCRX

CASSETTE DECK SECTION

• Head Azimuth Adjustment (Deck 1/2)

Caution :

- Please replace both azimuth adjustment screws (RHE5152ZB) and springs (RMB0331) simultaneously when readjusting the head azimuth. (shown in Fig. 2)
  Even if you wish to readjust the head azimuth without replacing the screws and springs, a fine adjustment cannot be done because of the screw-locking bond adhered to the azimuth screw and spring.
- Please remove the screw-locking bond left on the head base when replacing the azimuth screw.
- If you wish to readjust the head azimuth, be sure to adjust with adhering the cassette tape closely to the mechanism by pushing the center of cassette tape with your finger. (shown in Fig. 3)

1. Playback the azimuth adjustment portion (8 kHz, –20 dB) of the test tape (QZZCFM) in the forward play mode. Vary the azimuth adjusting screw until the output of the R-CH (PB OUT-R) are maximized.
2. Perform the same adjustment in the reverse play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.

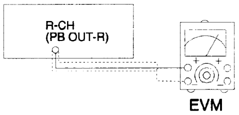


Fig. 1

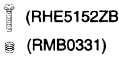


Fig.2

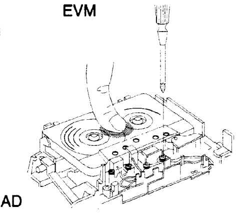


Fig. 3

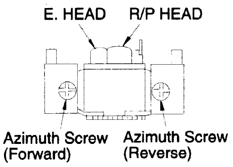


Fig. 4

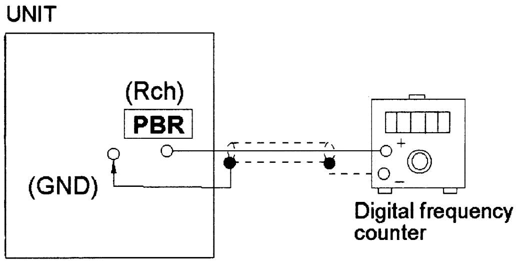
• Tape Speed Adjustment (Deck 1/2)

1. Set the One touch tape edit button to "NORMAL" position.
2. Insert the test tape (QZZCWAT) to DECK 2 and playback (FWD side) the middle portion of it.
3. Adjust VR201 (DECK 2) for the output value shown below.

Adjustment target : 2940 ~ 3060 Hz (NORMAL speed)

4. Assure that the output freqency of the DECK 2 REV and DECK 1 FWD/REV are within ± **40 Hz** of the value of the output frequency of DECK 2 FWD.
5. Press the "HIGH" of tape edit button.
6. Short-circuit between TP200 and TP10 (Fig. 5).
7. Assure that the output from DECK 1/2 are within the standard value.

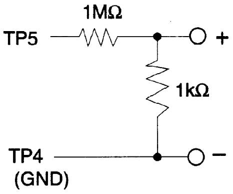
Standard value : 5000 ± 210 Hz (HIGH speed)

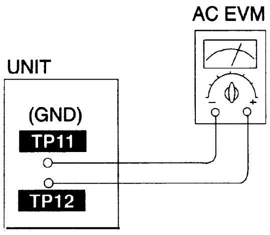


• Bias and Erase Voltage Check

1. Insert the normal tape (QZZCRA).
2. Place cassette deck into REC mode.
3. Measure and make sure that the output is within the standard value.
4. Insert the CrO_2 tape (QZZCRX).
5. Repeat steps 2 and 3.

Bias voltage for Deck 2 (Standard value) : 19 ± 4mV (Normal)
27 ± 5mV (CrO_2)
Erase voltage for Deck 2 (Standard value) : more than 100mV (Normal)
more than 150mV (CrO_2)





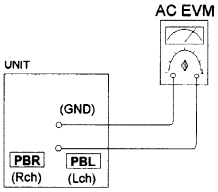
• Bias Frequency Adjustment (Deck 2)

1. Set the unit to "AUX" position.
2. Insert the Normal blank tape (QZZCRA) into DECK 2 and set the unit to "RECORD" mode (use REC PAUSE" key).
3. Adjust **L201** so that the output frequency is within the standard value.

Standard Value : 98 ± 8 kHz

PLAYBACK GAIN ADJUSTMENT (DECK 1, 2)

1. Test equipment connection is shown on thr right.
2. Playback test tape (QZZCFM: 315Hz, –10dB).
3. Adjust **VR101 and VR102 for DECK 1** and **VR103 and VR104 for DECK 2** to read **388 ± 40 mV** on the AC Electronic Voltmeter. (AC EVM)

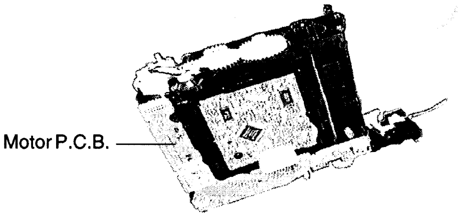

AC EVM
UNIT
(GND)
PBR
(Rch)
PBL
(Lch)

■ CD LOADING MECHANISM SECTION

WARNING: This product uses a laser diode. Refer to caution statments on page 2.

• DISC SENSOR ADJUSTMENT

1. Set the unit to **"CD TEST MODE"** as shown below.
2. Connect the DC electronic voltmeter across **TP501** (+) and **TP502** (–) on the motor P.C.B. (Fig. 6).
3. Adjust **VR501** so that the DC electronic voltmeter reads **2.8 ± 0.1V.**
4. Check the play operaion after adjustment.



< TUNER SECTION >

• SW1-RF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT (Shown in Fig. 7)	REMARKS
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	3.2MHz	Tuning capacitor fully closed.	Headphone Jack (32Ω) (Fabricate the plug as shown in Fig.8 and then connect the lead wires of the plug to the measuring instrument.)	L11 (SW1 OSC Coil)	Adjust for maximum output.
	3.2MHz	Tune to signal		L9 (SW1 ANT Coil)	Adjust for maximum output.

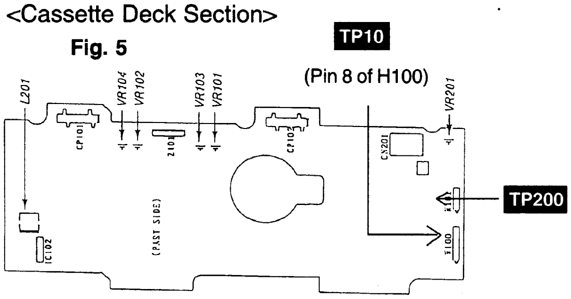
• SW2-RF ALIGNMENT

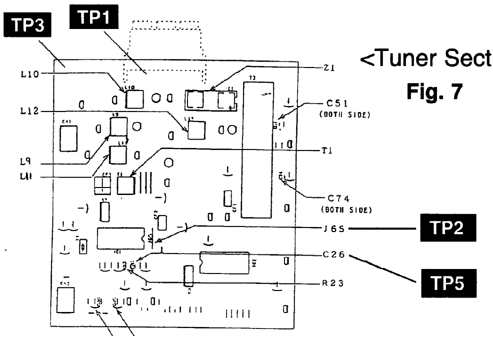
Connect to test point **TP1** through ceramic capacitor (10pF). Negative side to test point **TP3**	9.5MHz	Tuning capacitor fully closed.	"	L12 (SW2 OSC Coil)	Adjust for maximum output.
	9.5MHz	Tune to signal	"	L10 (SW2 ANT Coil)	Adjust for maximum output.

• Alignment Points

<Cassette Deck Section>

Fig. 5


TP10
(Pin 8 of H100)
L201
VR104
VR102
VR103
VR101
VR201
CP101
CP102
CN201
IC102
(PAST SIDE)
TP200

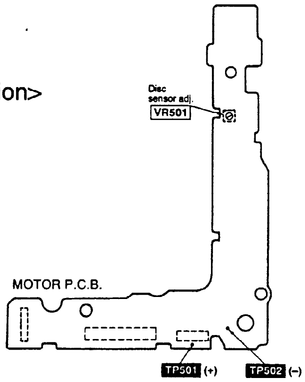

TP3
TP1
L10
L12
L9
L11
Z1
C51
(BOTH SIDE)
T1
C74
(BOTH SIDE)
J65
TP2
C26
TP5
R23

<Tuner Section>

Fig. 7

<CD Loading Mechanism Section>

Fig. 6


Disc sensor adj.
VR501
MOTOR P.C.B.
TP501 (+)
TP502 (–)

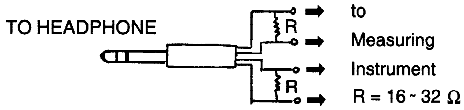

TO HEADPHONE
R
R
to
Measuring
Instrument
R = 16 ~ 32 Ω

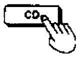
Fig. 8

■ CD Test Mode

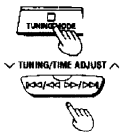
This unit contains some functions which check operations by internal micro-processor program. Use these functions when performing repair or maintenance on the unit. These functions include:

1. CD automatically-adjusted result display
2. Servo module test mode (CD can be played without changer mechanism)
3. Changer mechanism test mode (Changer can be operated without servo module)
4. Changer continuous play test

■ How to enter the CD test mode

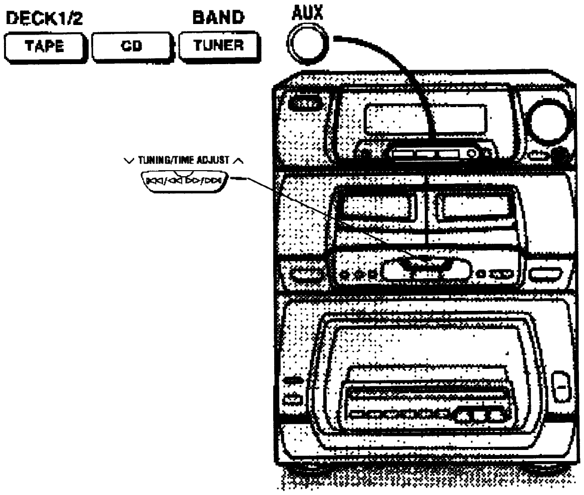


Press "CD" button to turn the unit on (with no CD and cassette tape loaded).


TUNING MODE
∨ TUNING/TIME ADJUST ∧

Press " ■ TUNING MODE" for 4 seconds and hold it. Press " ▶▶/▶▶| " button and then release " ■ TUNING MODE".

"CD TEST" will appear on the FL display.
(Unit is in the CD test mode.)


DECK1/2
BAND
AUX
TAPE
CD
TUNER
∨ TUNING/TIME ADJUST ∧

■ CD AUTOMATICALLY-ADJUSTED RESULT DISPLAY MODE

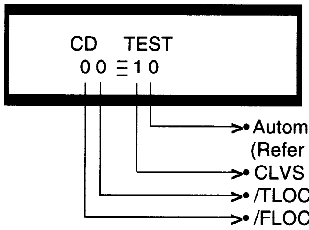
* This function provides indication of error codes as the result of automatically-adjustment of CD (tracking, focus, offset, etc). Based on these error codes, the faulty areas can be located.

• How to set the CD automatically-adjusted result display mode

CD test mode

↓

A Press Group File "A" key.



FL display shows CD automatically-adjusted result, /FLOCK, /TLOCK and CLVS condition.

- Automatically-adjusted result (Refer to the table below)
- CLVS (1=OK, 0=NG)
- /TLOCK (1=NG, 0=OK)
- /FLOCK (1=NG, 0=OK)

• Error code explanation

Error Code	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Focus Offset	0	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tracking Offset	0	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Focus Gain (Rough)	0	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tracking Gain (Rough)	0	–	0	X	0	X	0	X	0	X	0	X	0	X	0	X
Tracking Balance	0	–	X	X	0	0	X	X	0	0	X	X	0	0	X	X
Focus Gain (Fine)	0	–	0	0	X	X	X	X	0	0	0	0	X	X	X	X
Tracking Gain (Fine)	0	–	0	0	0	0	0	0	X	X	X	X	X	X	X	X

0 = OK (Satisfactory)
X = NG (Faulty)

* Before testing, make sure that the test disc is free from scratches, dirt and the optical pick up len is clean.

• How to go out from CD automatically-adjusted result display mode
Press the "POWER" button.

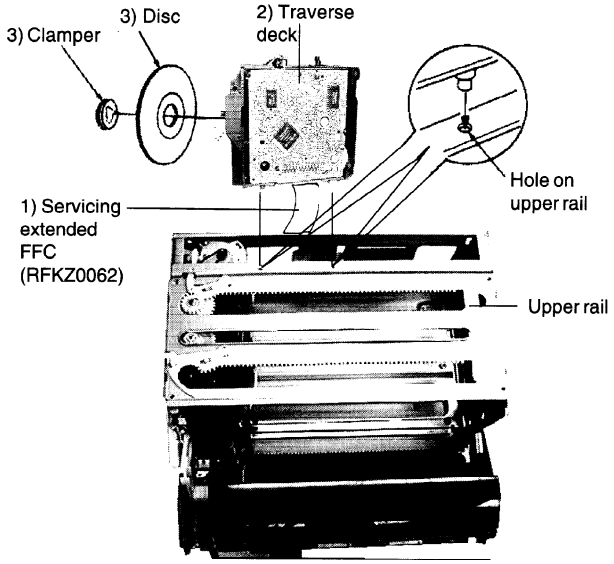
■ SERVO MODULE TEST MODE

* This function provides operation test for CD traverse unit (by itself). You can use this test for traverse unit operation checking and troubleshooting.

• Preapare for set up.

* Remove the traverse deck and set up as shown on the left.

1) Connect the servicing extension FFC between the traverse deck and the loading unit.
2) Position the traverse deck on top of the holes of the upper rail.
3) Attach the disc to the clamper with magnet.



• How to enter the servo module test mode

CD test mode

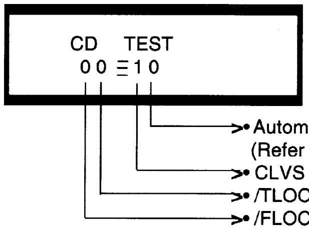
↓

B Press Group File "B" key.

↓

Press "▶ FM/BP" button.
(The unit accepts "▶ FM/BP", "II◀ MEMORY/SET", "▶▶/▶▶I" and "I◀◀/◀◀" buttons only.)

(Each time the CD is played by "▶ FM/BP" button, the unit reads TOC and indicates automatically-adjusted result.)



FL display shows CD automatically-adjusted result, /FLOCK, /LOCK and CLVS condition.

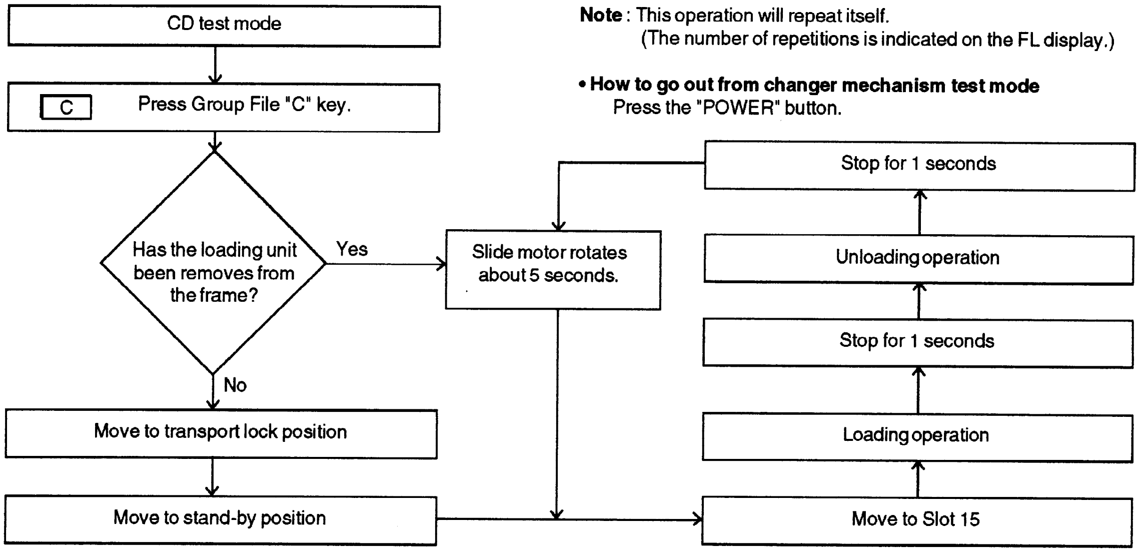
- Automatically-adjusted result (Refer to the table above)
- CLVS (1=OK, 0=NG)
- /TLOCK (1=NG, 0=OK)
- /FLOCK (1=NG, 0=OK)

• How to go out from servo module test mode
Press the "POWER" button.

■ CHANGER MECHANISM TEST MODE

* This function provides operation test for changer mechanism individually. You can use this test mode for changer mechanism troubleshooting without CD traverse unit. (It can also be checked with traverse unit.)

- **How to enter the changer mechanism test mode (Load disc at Disc No. 15)**


CD test mode
C
Press Group File "C" key.
Has the loading unit been removes from the frame?
Yes
No
Move to transport lock position
Move to stand-by position
Slide motor rotates about 5 seconds.
Move to Slot 15
Loading operation
Stop for 1 seconds
Unloading operation
Stop for 1 seconds

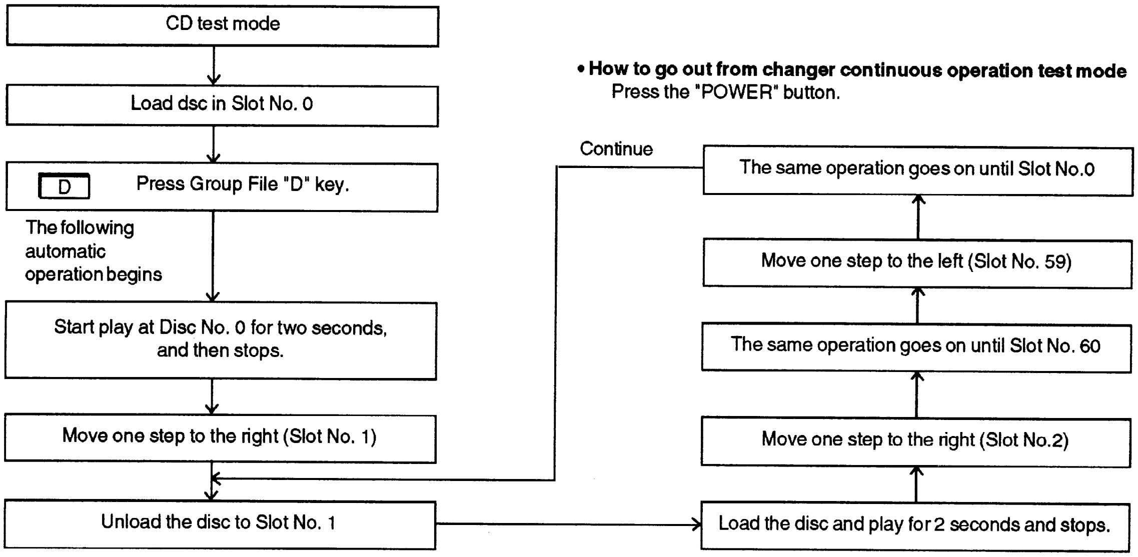
Note : This operation will repeat itself.
(The number of repetitions is indicated on the FL display.)

- **How to go out from changer mechanism test mode**
  Press the "POWER" button.

■ CHANGER CONTINUOUS OPERATION TEST MODE

* This function provides the continuous play operatin for checking changer mechansim. You can use this function to find out the intermittent problem or operation check after repair.

- **How to enter the changer continuous operation mode**


CD test mode
Load dsc in Slot No. 0
D
Press Group File "D" key.
The following automatic operation begins
Start play at Disc No. 0 for two seconds, and then stops.
Move one step to the right (Slot No. 1)
Unload the disc to Slot No. 1
Load the disc and play for 2 seconds and stops.
Move one step to the right (Slot No.2)
The same operation goes on until Slot No. 60
Move one step to the left (Slot No. 59)
The same operation goes on until Slot No.0
Continue

- **How to go out from changer continuous operation test mode**
  Press the "POWER" button.

■ Self-Diagnostic Display Function

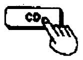
■ Self-diagnostic display

This unit is equipped with a self-diagnosis display function which, if a problem occurs at cassette mechanism and CD mega changer, will display an error code corresponding to the problem. Use this function when performing maintenance on the unit.

■ Preparation

- * Normal blank tape with recording prevention tab on one side.
- * Normal pre-recorded tape with data on both sides and recording prevention tabs intact.
- * Normal pre-recorded tape with recording prevention tabs on both sides.

■ How to enter the Self-Diagnostic Function mode.



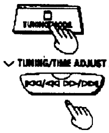
Press "CD" button to turn the unit on (with no CD and cassette tape loaded).

↓

DECK1/2
TAPE

Press "TAPE" button.

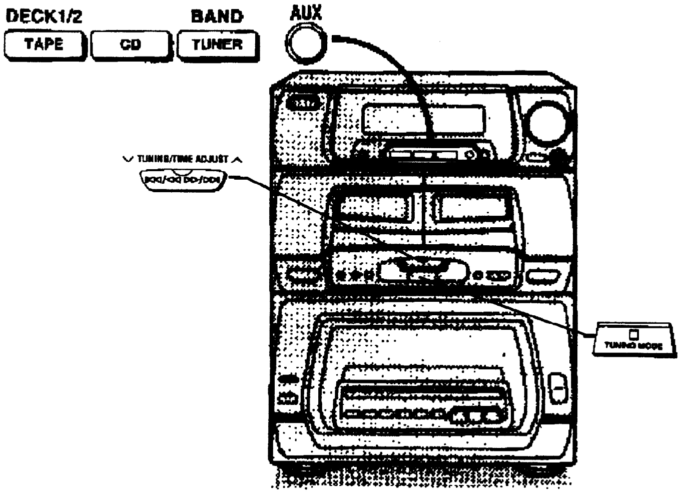
↓



Press "■ TUNING MODE" for 4 seconds and hold it. Press "▶▶/▶▶|" button and then release "■ TUNING MODE".

↓

"T" will appear on the FL display.
(unit is in the Self-Diagnostic Function.)



■ Cassette Mechanism Test

1. Press "TAPE" button to select the tested cassette deck. (Deck 1 and 2 are tested separately.)
2. Load the normal blank tape. (Recording prevention tab at the right hand side)
3. Press the "▶▶/▶▶|" button. (Tape will fast forward for about 2 seconds and stop automatically)
4. Load the normal blank tape. (Recording prevention tab at the left hand side)
5. Press the "|◀◀/◀◀" button. (Tape will fast forward for about 2 seconds and stop automatically)
6. Load the normal pre-recorded tape. (Recording prevention tab on both sides.)
7. Press "▶ FM/BP" button. (TPS function starts and will stop automatically.)
8. Load the normal blank tape. (Recording prevention tab on both sides)
9. Press "REC START/STOP" button.
10. Repeat step 1 ~ 9 for the other cassette deck.

■ CD / CD Mega Changer Test

1. Press "∧ DISC SKIP / GROUP NAME" button.

   * CD Mega Changer will operate the following functions automatically for test ans error detection:

   a) Mechanism moves to the transportation position.
   b) Mechanism moves to the initial position. (Stop for 1 second)
   c) Mechanism moves to Disc Number 15.
   d) Disc loading operation. (Stop for 1 second)
   e) Disc unloading operation.
   f) Mechanism moves back to the initial position.

■ To Display Self-Diagnostic Result

1. Press "■ TUNING MODE" button.

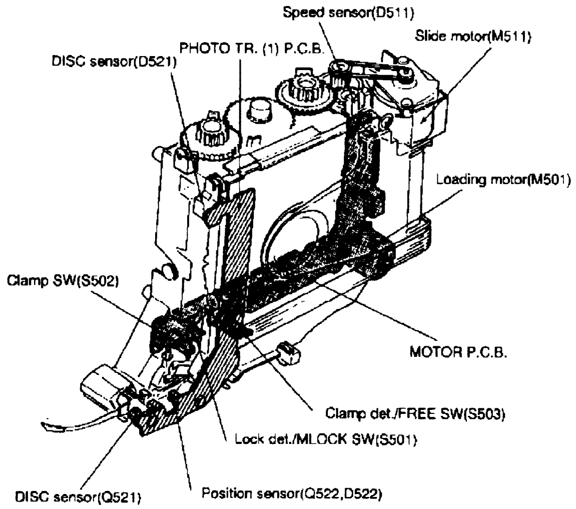
   * If several problems exist, error code will change each time you press "■ TUNING MODE" button is pressed.
   (eg. HO2 ⟶ H03 ⟶ F02 .... etc.)
   * Press "TAPE" button to display error code for the desired cassette deck.
   * If there is no problem, FL will still display "T".

- **To Clear The Error Codes**
  1. Press the "■TUNING MODE" button for at least 5 seconds.
  2. FL indicator shows "CLEAR" for 1 second and change to "T".

- **How To Get Out From Self-Diagnostic Function**
  - * Press "POWER" button to switch off the unit.

- **Interpretation of error codes**

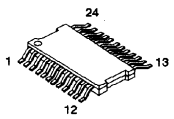
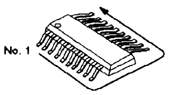
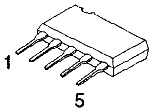
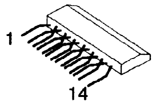
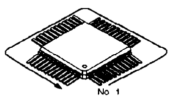
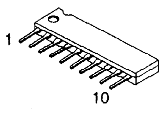
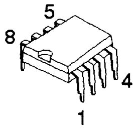
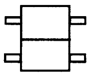
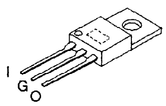
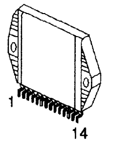
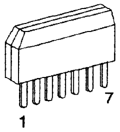
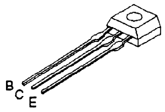
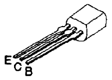
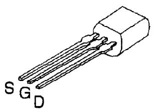
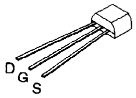
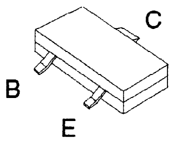
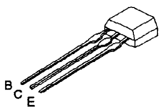
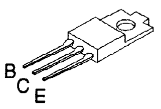
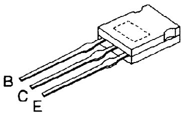
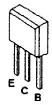
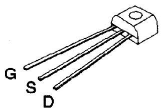
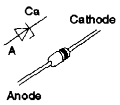
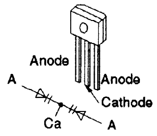
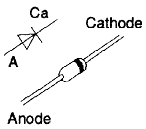
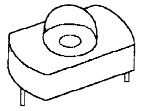
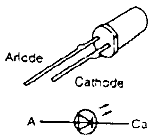
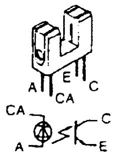
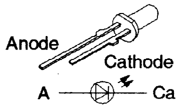
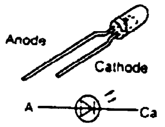
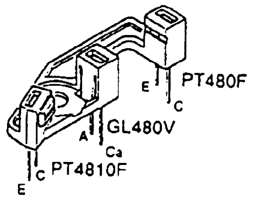
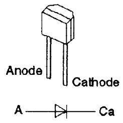
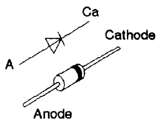
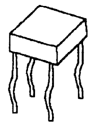
Error code	Problem condition	Correction procedure
H01	Faulty operation of cassette mechanism. Example: Reverse-play operation performs when "▶▶/▶▶|" button is pressed.	Faulty cassette mechanism mode switch [S951, S971] and plunger. (Check and replace)
H02	Recording not possible, or recording mode entered even though erasure prevention tabs have been removed.	Faulty contact or short-circuit of erasure prevention switches [S974, S975]. (Check and replace)
H03	Playback not performed when "▶ FM/BP" button is pressed. Motor turns when "▶ FM/BP" button is pressed even though there is no tape cassette loaded in cassette holder.	Faulty contact or short-circuit of cassette half detect switch. [S952, S972] (Check and replace)
F01	When the "▶ FM/BP" button is pressed, the tape advances slightly and then stops.	Faulty reel pulse, faulty hole detect IC. [IC951, IC971] (Check and replace)
F02	Cassette deck will not perform TPS function.	Faulty playback EQ/recording amplifier IC. [IC101] (Check and replace)
F15	The sympton is slow start-up of the CD when power is turned ON. The cause is defective contact of the OPU reset switch.	Abnormal rest detection switch (S701).
F26 (Automatic display)	Sympton is that the unit does not operate when the "▶ FM/BP" button is pressed, or the CD is skipping etc. The probable cause is defective system control IC. Lock det./MLOCK SW (S501) does not go ON/OFF in initial operation.	• Check system control (IC401) and servo IC (IC702). • Check each IC and servo circuit. • Check Lock det./MLOCK SW (S501).
F27	Sensor abnormal. Load on slide drive system is too great. Loading unit does not move to the right or left. Slide motor malfunction.	• Check slide motor (M511). • Check position sensor (Q522, D522) and speed sensor (D511). • Check gears of slide drive system. (Jammed by foreign matter or great teeth missing.)
F28	Clamp det./FREE SW does not go OFF, and Clamp det. SW (S502) does not go ON within 5 seconds during loading.	• Check Clamp det./FREE SW (S503) and Clamp SW (S502). • Check loading motor (M501). • Check loading drive system. (Riding-up, shifting or foreign matter jamming of levers, missing gear teeth etc.)
F29	Clamp det./FREE SW (S503) and clamp SW does not go ON within 5 seconds during unloading.	
F61	When power is switched on it automatically switches immediately back off, and cannot be switched on. (DCDET become L during normal opearion.)	• Faulty power detector (Q512). (Check and replace) • Power supply circuit



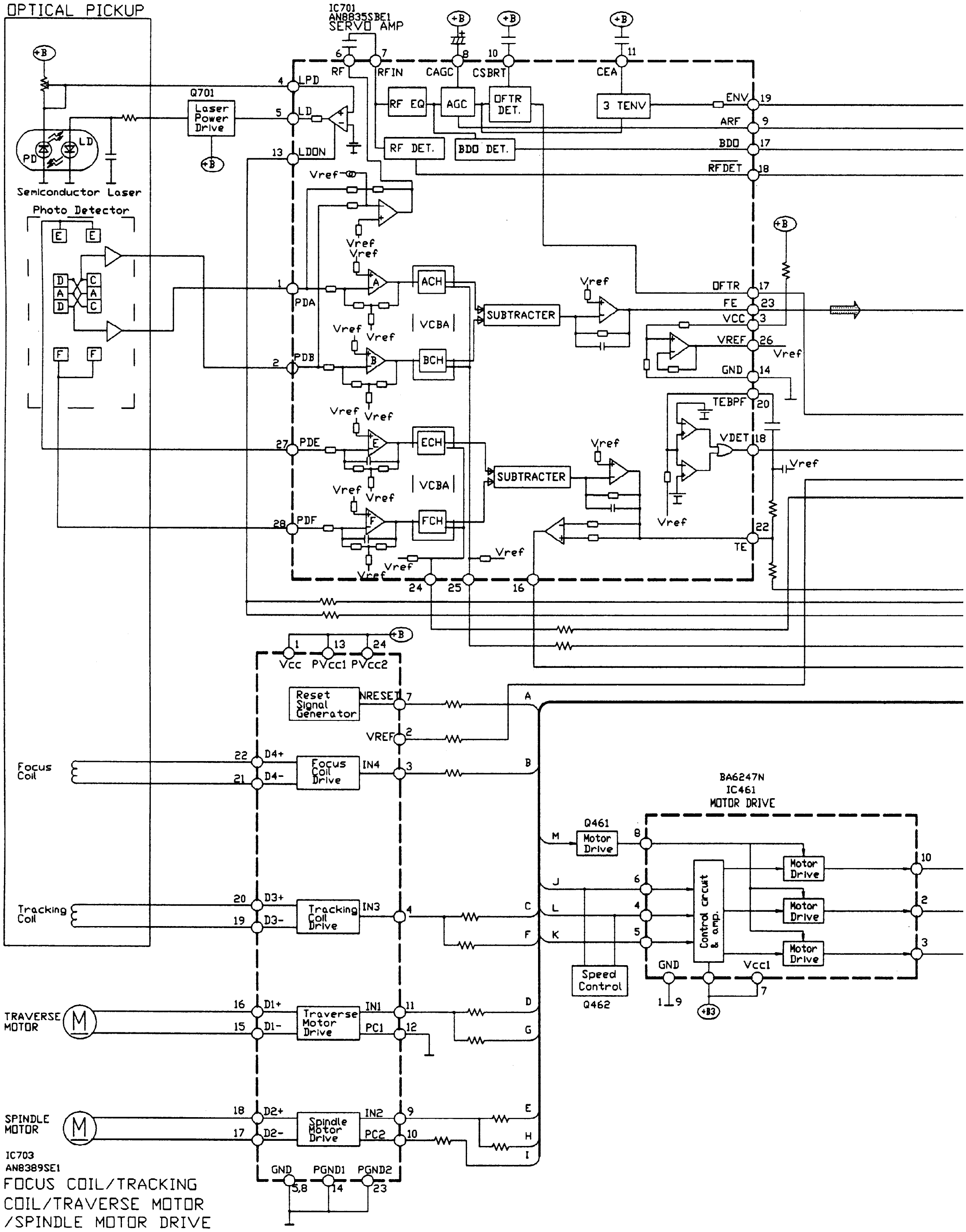
Ref. No.	Part name (Part No.)
IC401	System control IC (UPD78043A046)
IC702	Servo processor IC (MN662741RPA)
S501	Lock det./MLOCK SW (RSH1A017-A)
S502	Clamp det. SW (RSH1A005)
S503	Clamp det./FREE SW (RSH1A005)
S701	Rest detection SW (RSM0006-P)
Q521	Disc sensor (PT4810F)

Ref. No.	Part name (Part No.)
Q522	Position sensor (PT480F)
D511	Speed sensor (RSQGP1S53V)
D521	Disc sensor (LN66S)
D522	Position sensor (GL480V)
M501	Loading motor (RFKPLMC50PAK)
M511	Slide motor (RFKPLMC50PBK)

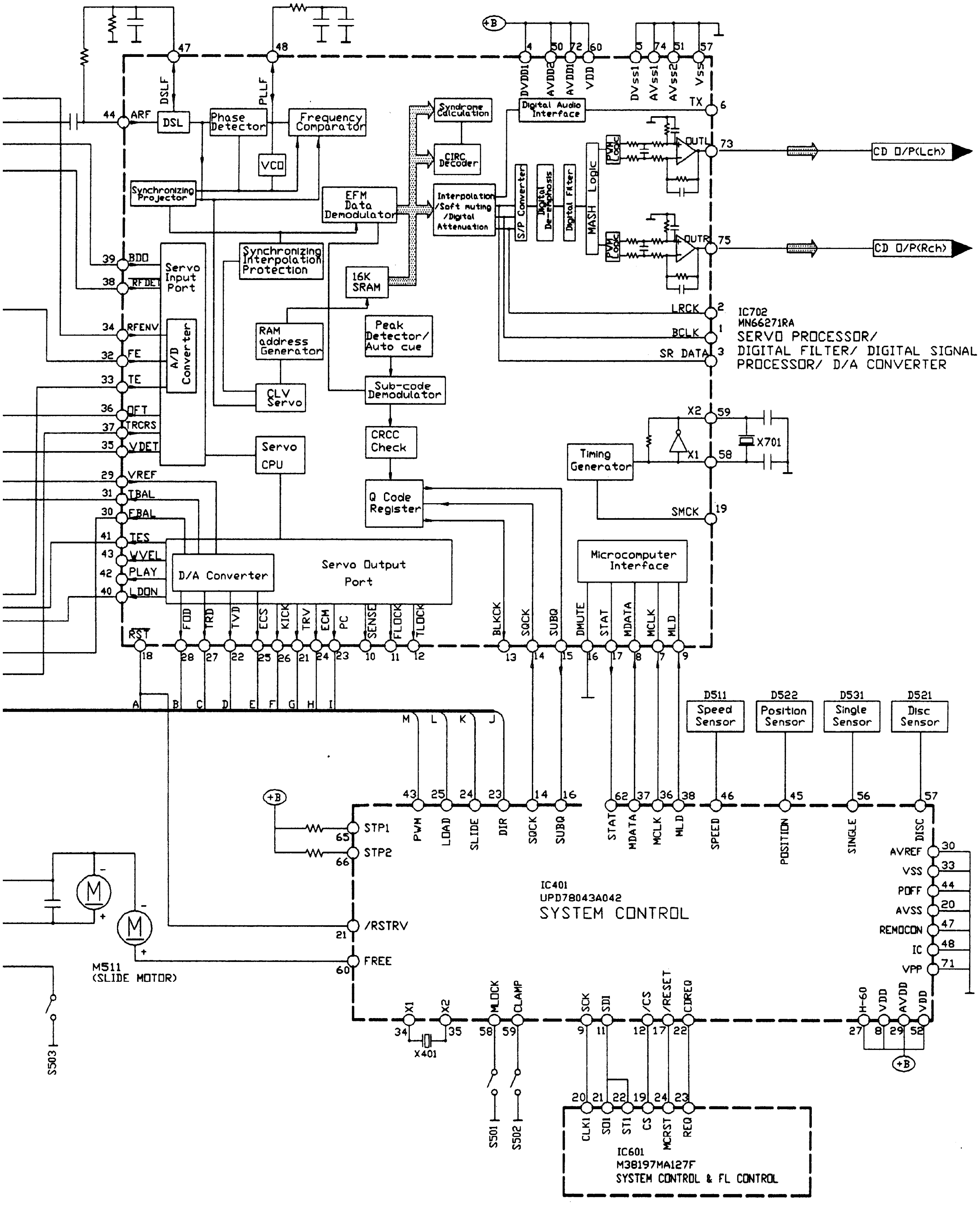
Terminal Guide of ICs, Transistors and Diodes

AN8389SE1 	M51167BFP-TB(36P) AN8835SBE1(28P) 	BU2040F-E2(16P) BU4052BCF-E2(16P) LA1832A(24P) LC7218(24P) M62422FP-E1(42P) CXA1102M-T4(16P) BU4066BCF-E2(14P) M65843FPE1(24P)	BA7755A 	M51131L-702 	M38197MA137F(100P) MN662741RPA(80P) UPD78043A042(80P) 
BA6247N 	M5218AP 	0N2180RLC 	AN78M05 	RSN3404 	TA2011S 
2SC2785FETA 2SC2786MTA 2SD1020HTA 	2SC2785FTA 2SC2787FL1TA 2SC2787LTA BA1A4ZTA BA1L3ZTA BN1L3NTA 2SC1740SSTA 2SC3311AIQST	2SB621RTA 2SC2001KTA 2SD965RTA 2SA1534AQRTA 2SA952LTA 	2SK301QTA 	2SD1302STA 2SJ40CDTA 	2SB709S 
RVTDTA143XST RVTDTC143TST 	2SA933SSTA RVTDTA114EST RVDTDTC114TST RVTDTC124EST RVTDTA124EST RVTDTC114EST	2SB1185E 2SD1762E 	2SD2037ETA 	2SC2784FTA 2SD1450STA BA1L4ZTA BN1A4MTA 	2SK544F-AC 2SJ164RTA 
MTZJ12BTA MTZJ13ATA  Ca Cathode A Anode	MTZJ15CTA MTZJ5R6CTA MTZJ6R8ATA MTZJ6R8CTA MTZJ5R1BTA MTZJ5R6BTA	MTZJ10BTA MTZJ3R6BTA MTZJ4R7BTA MTZJ5R1CTA MTZJ7R5CTA	SVC211SPA-AL  Anode A Anode Cathode Ca A	RVD1SS133TA 1SS291TA  Ca Cathode A Anode	MA165 MA700TA 1SS254TA MA167TA
LNJ301MPUJHAD LNJ801TPSJAD 	SLR-325MC SLR-325VC	LN66S SPR505MDTT  Anode Cathode A Ca	RSQGP1S53V  A E C CA CA C A E	GL480V  Anode Cathode A Ca	BR3433S  Anode Cathode A Ca
 E C PT480F A GL480V Ca C PT4810F E		RVDSVC321  Anode Cathode A Ca	1D3E  Ca Cathode A Anode	SVDS4VB20 	

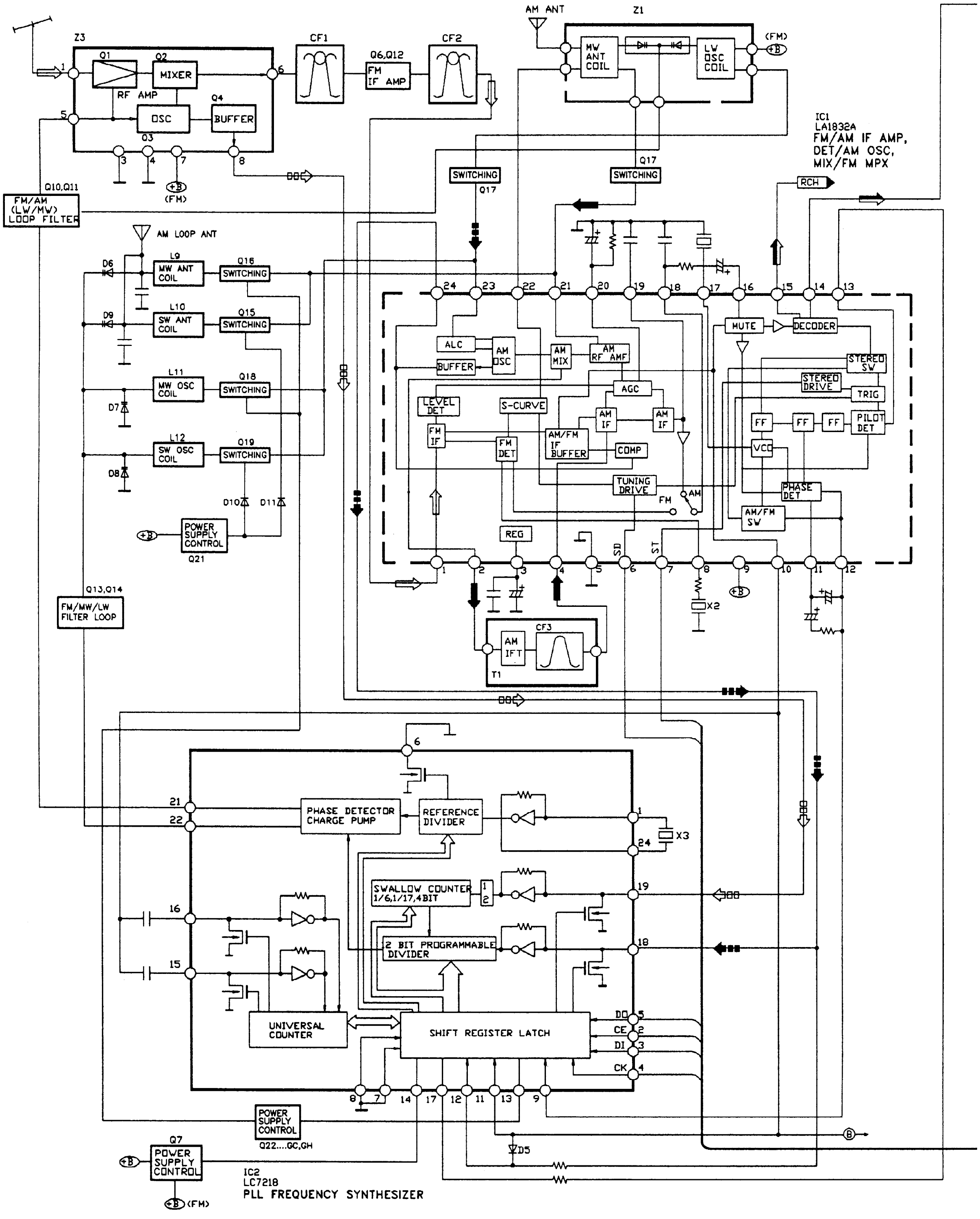
■ Block Diagram

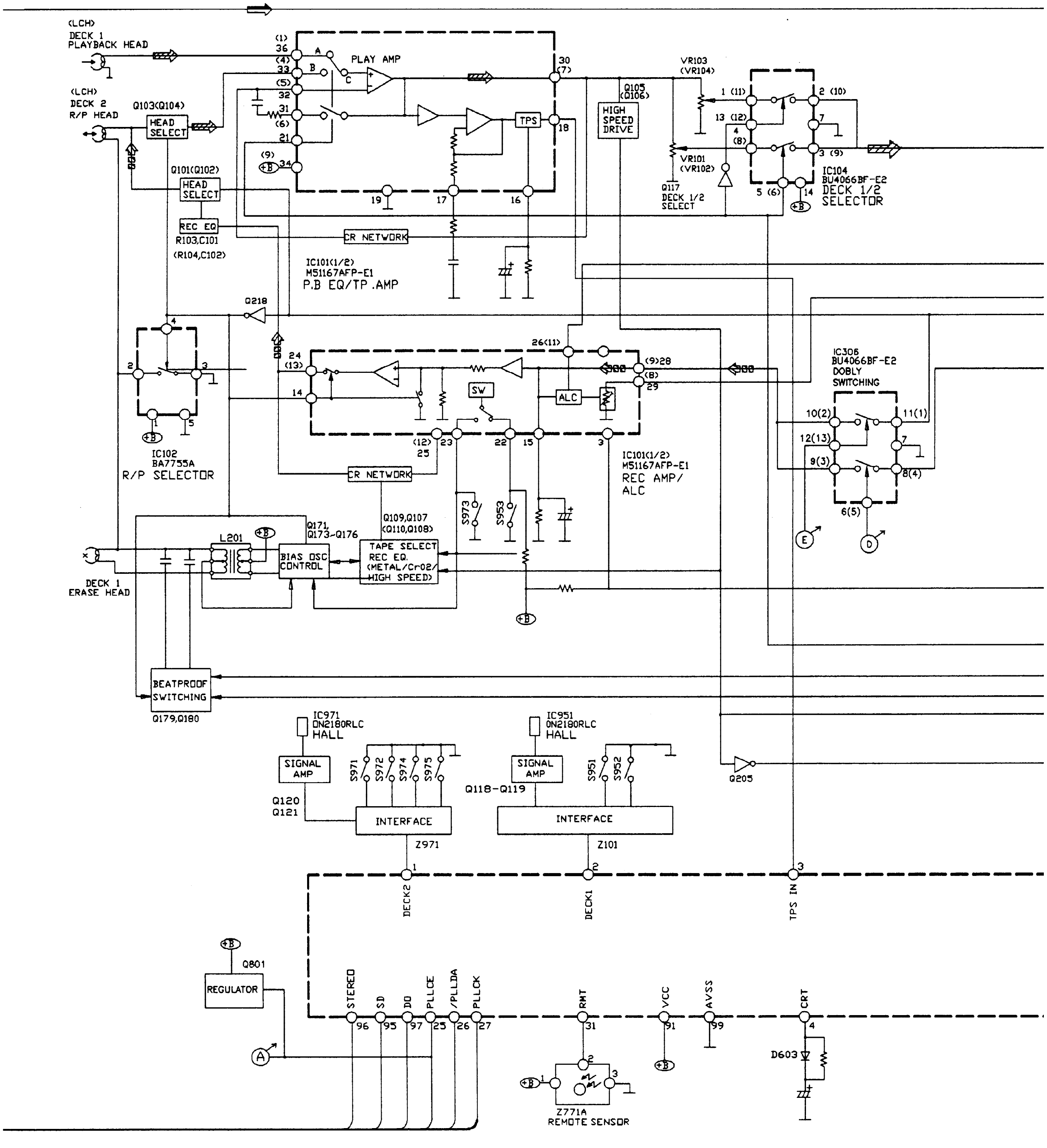


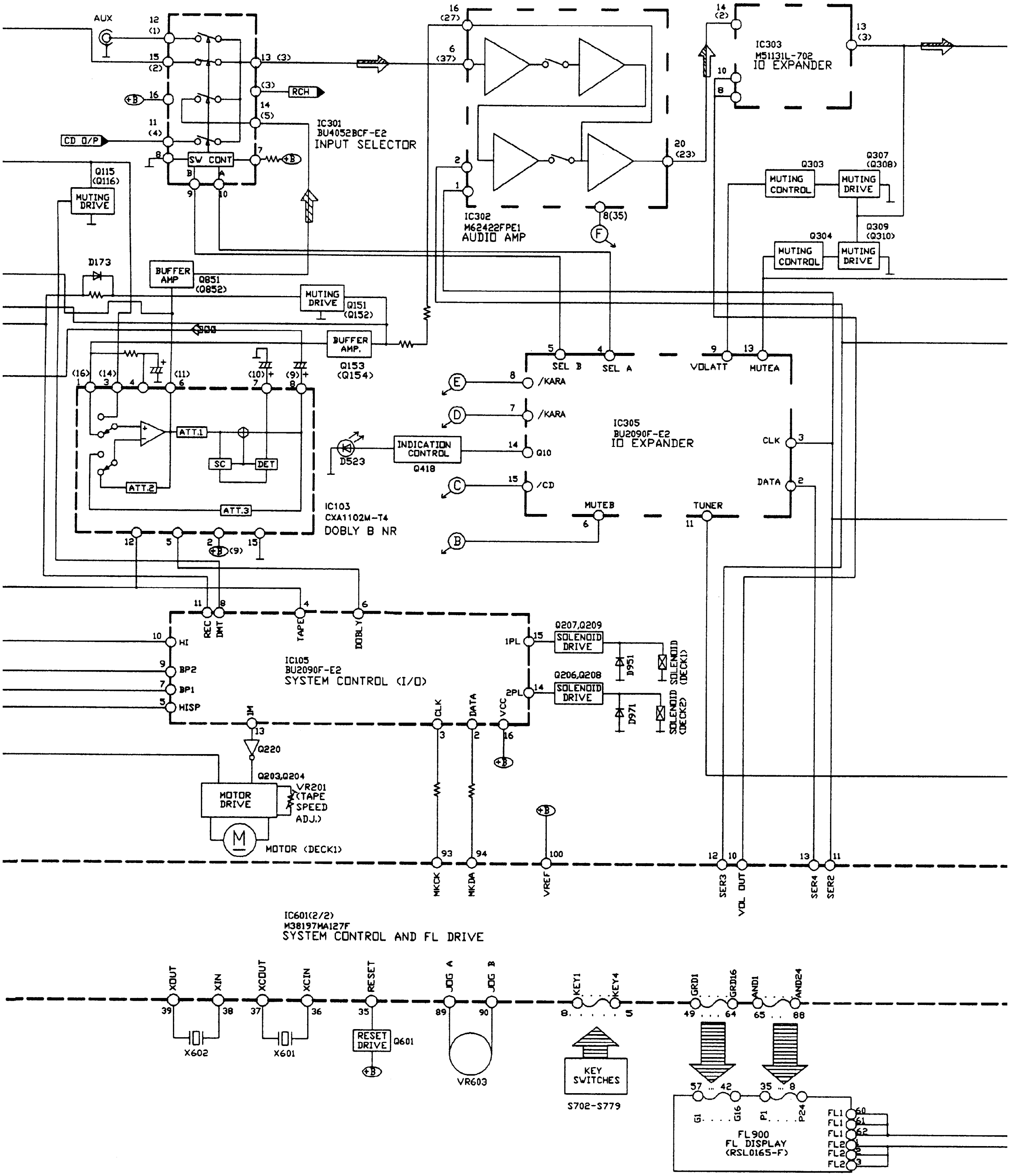
OPTICAL PICKUP
+B
PD
LD
Semiconductor Laser
Photo Detector
E
D
A
C
F
Q701
Laser Power Drive
IC701
AN8835SBE1
SERVO AMP
+B
6
7
8
10
11
RF
RFIN
CAGC
CSBRT
CEA
4 LPD
5 LD
13 LDON
RF EQ
AGC
DFTR DET.
3 TENV
RF DET.
BDO DET.
ENV 19
ARF 9
BDO 17
RFDET 18
Vref
1 PDA
2 PDB
27 PDE
28 PDF
ACH
BCH
ECH
FCH
VCBA
SUBTRACTER
DFTR 17
FE 23
VCC 3
VREF 26
GND 14
TEBPF 20
VDET 18
22
TE
24
25
16
1 13 24
Vcc PVcc1 PVcc2
Reset Signal Generator
NRESET 7
VREF 2
A
22 D4+
21 D4-
Focus Coil
Focus Coil Drive
IN4 3
B
20 D3+
19 D3-
Tracking Coil
Tracking Coil Drive
IN3 4
C
F
TRAVERSE MOTOR
16 D1+
15 D1-
Traverse Motor Drive
IN1 11
PC1 12
D
G
SPINDLE MOTOR
18 D2+
17 D2-
Spindle Motor Drive
IN2 9
PC2 10
E
H
I
GND 5,8
PGND1 14
PGND2 23
IC703
AN8389SE1
FOCUS COIL/TRACKING COIL/TRAVERSE MOTOR /SPINDLE MOTOR DRIVE
BA6247N
IC461
MOTOR DRIVE
Q461
Motor Drive
M
J
L
K
8
6
4
5
Control circuit & amp.
Motor Drive
10
2
3
GND
Vcc1
1 9
7
+B3
Speed Control
Q462

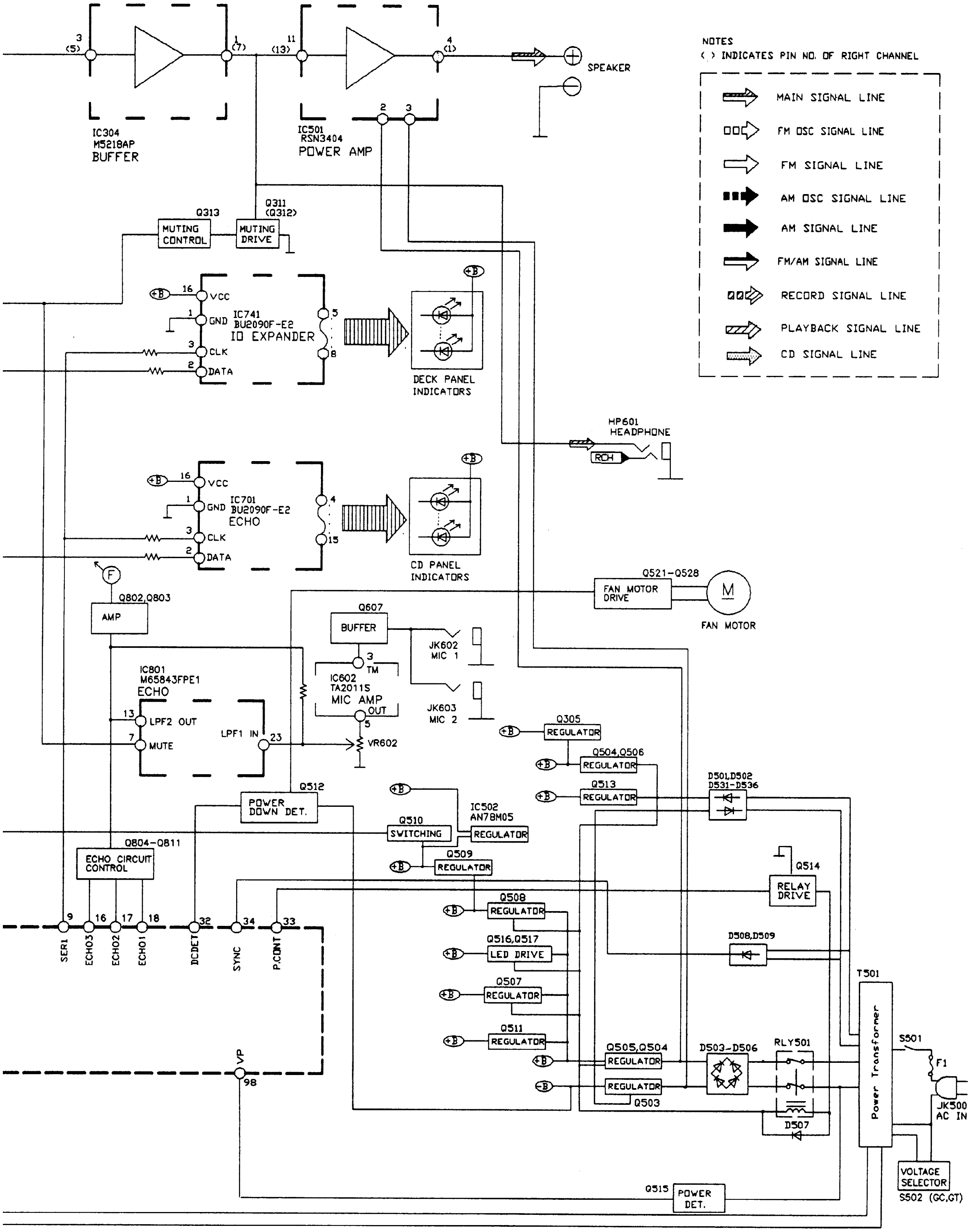


IC702
MN66271RA
SERVO PROCESSOR/
DIGITAL FILTER/ DIGITAL SIGNAL
PROCESSOR/ D/A CONVERTER
ARF
DSLF
PLLF
DSL
Phase Detector
Frequency Comparator
VCO
Synchronizing Projector
EFM Data Demodulator
Syndrome Calculation
CIRC Decoder
Interpolation /Soft muting /Digital Attenuation
S/P Converter
Digital De-emphasis
Digital Filter
MASH Logic
PWM Logic
Digital Audio Interface
DVDD1
AVDD2
AVDD1
VDD
DVss1
AVss1
AVss2
Vss
TX
OUTL
OUTR
CD O/P(Lch)
CD O/P(Rch)
LRCK
BCLK
SR DATA
Synchronizing Interpolation Protection
16K SRAM
RAM address Generator
Peak Detector/ Auto cue
Sub-code Demodulator
CLV Servo
CRCC Check
Servo CPU
Q Code Register
Timing Generator
X701
X1
X2
SMCK
Servo Input Port
A/D Converter
BDO
RFDET
RFENV
FE
TE
OFT
TRCRS
VDET
VREF
TBAL
FBAL
TES
WVEL
PLAY
LDON
RST
D/A Converter
Servo Output Port
Microcomputer Interface
FOD
TRD
TVD
ECS
KICK
TRV
ECM
PC
SENSE
FLOCK
TLOCK
BLKCK
SQCK
SUBQ
DMUTE
STAT
MDATA
MCLK
MLD
+B
D511 Speed Sensor
D522 Position Sensor
D531 Single Sensor
D521 Disc Sensor
IC401
UPD78043A042
SYSTEM CONTROL
STP1
STP2
/RSTRV
FREE
PWM
LOAD
SLIDE
DIR
SPEED
POSITION
SINGLE
DISC
AVREF
VSS
POFF
AVSS
REMOCON
IC
VPP
H-60
AVDD
MLOCK
CLAMP
SCK
SDI
/CS
/RESET
CDREQ
X401
S501
S502
S503
M511 (SLIDE MOTOR)
IC601
M38197MA127F
SYSTEM CONTROL & FL CONTROL
CLK1
SDI
ST1
CS
MCRST
REQ


Z3
Q1
Q2
MIXER
RF AMP
Q4
OSC
BUFFER
Q3
1
5
6
3
4
7
8
+B
(FM)
CF1
Q6,Q12
FM IF AMP
CF2
AM ANT
Z1
MW ANT COIL
LW OSC COIL
(FM)
+B
IC1
LA1832A
FM/AM IF AMP, DET/AM OSC, MIX/FM MPX
SWITCHING
Q17
Q17
SWITCHING
RCH
Q10,Q11
FM/AM (LW/MW) LOOP FILTER
AM LOOP ANT
D6
L9
MW ANT COIL
Q16
SWITCHING
L10
D9
SW ANT COIL
Q15
SWITCHING
L11
MW OSC COIL
Q18
SWITCHING
D7
L12
SW OSC COIL
Q19
SWITCHING
D8
D10
D11
POWER SUPPLY CONTROL
Q21
+B
Q13,Q14
FM/MW/LW FILTER LOOP
24
23
22
21
20
19
18
17
16
15
14
13
MUTE
DECODER
ALC
AM OSC
AM MIX
AM RF AMP
BUFFER
STEREO SW
STEREO DRIVE
TRIG
AGC
LEVEL DET
S-CURVE
AM IF
AM IF
FM IF
FM DET
AM/FM IF BUFFER
COMP
FF
FF
FF
PILOT DET
VCO
TUNING DRIVE
PHASE DET
FM
AM
AM/FM SW
REG
SD
ST
1
2
3
4
5
6
7
8
9
10
11
12
+B
X2
AM IFT
CF3
T1
6
21
22
PHASE DETECTOR CHARGE PUMP
REFERENCE DIVIDER
1
24
X3
SWALLOW COUNTER 1/6,1/17,4BIT
1
2
19
16
2 BIT PROGRAMMABLE DIVIDER
18
15
UNIVERSAL COUNTER
SHIFT REGISTER LATCH
DO
5
CE
2
DI
3
CK
4
8
7
14
17
12
11
13
9
POWER SUPPLY CONTROL
Q22....GC,GH
Q7
POWER SUPPLY CONTROL
+B
D5
B
IC2
LC7218
PLL FREQUENCY SYNTHESIZER
+B
(FM)


(LCH)
DECK 1
PLAYBACK HEAD
(LCH)
DECK 2
R/P HEAD
Q103(Q104)
HEAD SELECT
Q101(Q102)
HEAD SELECT
REC EQ
R103,C101
(R104,C102)
PLAY AMP
TPS
CR NETWORK
IC101(1/2)
M51167AFP-E1
P.B EQ/TP.AMP
Q105
(Q106)
HIGH SPEED DRIVE
VR103
(VR104)
VR101
(VR102)
Q117
DECK 1/2
SELECT
IC104
BU4066BF-E2
DECK 1/2
SELECTOR
Q218
IC102
BA7755A
R/P SELECTOR
SW
ALC
CR NETWORK
IC101(1/2)
M51167AFP-E1
REC AMP/
ALC
IC306
BU4066BF-E2
DOLBY
SWITCHING
S973
S953
L201
Q171,
Q173~Q176
BIAS OSC CONTROL
Q109,Q107
(Q110,Q108)
TAPE SELECT
REC EQ.
(METAL/CrO2/
HIGH SPEED)
DECK 1
ERASE HEAD
BEATPROOF
SWITCHING
Q179,Q180
IC971
ON2180RLC
HALL
SIGNAL AMP
Q120
Q121
S971
S972
S974
S975
INTERFACE
Z971
IC951
ON2180RLC
HALL
SIGNAL AMP
Q118~Q119
S951
S952
INTERFACE
Z101
Q205
DECK2
DECK1
TPS IN
Q801
REGULATOR
STEREO
SD
DO
PLLCE
/PLLDA
PLLCK
RMT
VCC
AVSS
CRT
D603
Z771A
REMOTE SENSOR
+B
A
D
E


AUX
12
(1)
15
(2)
16
+B
11
(4)
CD O/P
8
SW CONT
B
A
9
10
13 (3)
(3)
RCH
14
(5)
7
+B
IC301
BU4052BCF-E2
INPUT SELECTOR
16
(27)
6
(37)
2
1
20
(23)
8(35)
F
IC302
M62422FPE1
AUDIO AMP
14
(2)
10
8
IC303
M51131L-702
IO EXPANDER
13
(3)
Q303
MUTING CONTROL
Q307
(Q308)
MUTING DRIVE
Q304
MUTING CONTROL
Q309
(Q310)
MUTING DRIVE
Q115
(Q116)
MUTING DRIVE
D173
BUFFER AMP
Q851
(Q852)
MUTING DRIVE
Q151
(Q152)
+B
BUFFER AMP.
Q153
(Q154)
(16)
1
(14)
3
4
(11)
6
(10)
7
(9)
8
ATT.1
SC
DET
ATT.2
ATT.3
12
5
2
+B (9)
15
IC103
CXA1102M-T4
DOBLY B NR
5
SEL B
4
SEL A
9
VOLATT
13
MUTEA
E
8
/KARA
D
7
/KARA
IC305
BU2090F-E2
IO EXPANDER
D523
INDICATION CONTROL
Q418
14
Q10
C
15
/CD
CLK
3
DATA
2
MUTEB
6
TUNER
11
B
11
8
4
6
REC
DMT
TAPE
DOBLY
10
HI
9
BP2
7
BP1
5
HISP
IC105
BU2090F-E2
SYSTEM CONTROL (I/O)
Q207,Q209
1PL
15
SOLENOID DRIVE
D951
SOLENOID (DECK1)
Q206,Q208
2PL
14
SOLENOID DRIVE
D971
SOLENOID (DECK2)
1M
13
Q220
CLK
3
DATA
2
VCC
16
+B
Q203,Q204
MOTOR DRIVE
VR201
(TAPE SPEED ADJ.)
M
MOTOR (DECK1)
+B
93
MKCK
94
MKDA
100
VREF
12
SER3
10
VOL OUT
13
SER4
11
SER2
IC601(2/2)
M38197MA127F
SYSTEM CONTROL AND FL DRIVE
XOUT
39
XIN
38
XCOUT
37
XCIN
36
X602
X601
RESET
35
RESET DRIVE
Q601
+B
JOG A
89
JOG B
90
VR603
KEY1
KEY4
8 5
KEY SWITCHES
S702-S779
GRD1
GRD16
49 . . . 64
AND1
AND24
65 . . . 88
57 ... 42
35 ... 8
G1 . . . . G16
P1 . . . . P24
FL1 60
FL1 61
FL1 62
FL2 1
FL2 2
FL2 3
FL900
FL DISPLAY
(RSL0165-F)


NOTES
( ) INDICATES PIN NO. OF RIGHT CHANNEL
MAIN SIGNAL LINE
FM OSC SIGNAL LINE
FM SIGNAL LINE
AM OSC SIGNAL LINE
AM SIGNAL LINE
FM/AM SIGNAL LINE
RECORD SIGNAL LINE
PLAYBACK SIGNAL LINE
CD SIGNAL LINE
3 (5)
1 (7)
11 (13)
4 (1)
2
3
IC304
M5218AP
BUFFER
IC501
RSN3404
POWER AMP
SPEAKER
Q313
MUTING CONTROL
Q311 (Q312)
MUTING DRIVE
16 VCC
1 GND
3 CLK
2 DATA
5
8
IC741
BU2090F-E2
IO EXPANDER
DECK PANEL INDICATORS
HP601
HEADPHONE
RCH
IC701
BU2090F-E2
ECHO
4
15
CD PANEL INDICATORS
F
Q802,Q803
AMP
Q521-Q528
FAN MOTOR DRIVE
M
FAN MOTOR
Q607
BUFFER
3 TM
IC602
TA2011S
MIC AMP
OUT
5
JK602
MIC 1
JK603
MIC 2
IC801
M65843FPE1
ECHO
13 LPF2 OUT
7 MUTE
LPF1 IN 23
VR602
Q305
REGULATOR
Q504,Q506
REGULATOR
Q513
REGULATOR
D501,D502
D531-D536
Q512
POWER DOWN DET.
Q510
SWITCHING
IC502
AN78M05
REGULATOR
Q509
REGULATOR
Q804-Q811
ECHO CIRCUIT CONTROL
Q514
RELAY DRIVE
Q508
REGULATOR
Q516,Q517
LED DRIVE
D508,D509
Q507
REGULATOR
Q511
REGULATOR
T501
Power Transformer
Q505,Q504
REGULATOR
REGULATOR
Q503
D503-D506
RLY501
D507
S501
F1
JK500
AC IN
VOLTAGE SELECTOR
S502 (GC,GT)
Q515
POWER DET.
9 SER1
16 ECHO3
17 ECHO2
18 ECHO1
32 DCDET
34 SYNC
33 P.CONT
VP
98
+B

■ Terminal Functions Of ICs

• IC701 (AN8835SBE1) Servo Amplifier

Pin No.	Mark	I/O	Function
1	PDA	I	Focus signal input terminal 1 (Ach).
2	PDB	I	Focus signal input terminal 2 (Bch).
3	VCC	I	Power supply terminal.
4	LPD	I	Laser PD signal.
5	LD	O	Laser power auto control output.
6	RF	O	RF amplifier terminal.
7	RF IN	I	AGC input terminal.
8	CAGC	I	AGC detection capacitor input.
9	ARF	O	RF output
10	CSBRT	I	OFTR capacitor connection terminal.
11	CEA	I	HPF-AMP capacitor connection terminal.
12	BDO	O	Dropout detection control.
13	LDON	I	LD APC ON/OFF("H" : ON, "L" : OFF)
14	GND	—	GND terminal.
15	/RFDET	O	RF detection signal ("L" : detection).
16	CROSS	O	Tracking error zero cross output.
17	OFTR	O	Off track detection ("H" : detection).
18	VDET	O	Oscillation detection signal ("H" : detection).
19	ENV	O	Envelope output terminal
20	TEBPF	I	Oscillation det. input terminal (Not used,open)
21	CCRS	I	CROSS capacitor connection terminal.
22	TE	O	Tracking error signal.
23	FE	O	Focus error signal.
24	TBAL	I	Tracking balance adjusting input
25	FBAL	I	Focus balance adjusting input
26	VREF	O	Reference voltage output
27	PDE	I	Tracking signal input terminal 1 (Ech).
28	PDF	I	Tracking signal input terminal 2 (Fch).

• IC703 (AN8389SE1) Focus coil / Tracking coil / Traverse motor / Spindle motor driver

Pin No.	Mark	I/O	Function
1	VCC	I	Power supply terminal
2	VREF	I	Reference voltage input
3	IN4	I	Motor driver (4) input
4	IN3	I	Motor driver (3) input
5	GND	—	Ground connection
6	NC	—	Ground connection
7	NRESET	I	Reset input
8	GND	—	Ground connection
9	IN2	I	Motor driver (2) input
10	PC2	I	PC2 (power cut) input
11	IN1	I	Motor driver (1) input
12	PC1	I	PC1 (power cut) input (Not used, open)
13	PVCC1	I	Power supply (1) for driver
14	PGND1	—	Ground connection (1) for driver
15	D1–	O	Motor driver (1) reverse-action output
16	D1+	O	Motor driver (1) forward-action output
17	D2–	O	Motor driver (2) reverse-action output
18	D2+	O	Motor driver (2) forward-action output
19	D3–	O	Motor driver (3) reverse-action output
20	D3+	O	Motor driver (3) forward-action output
21	D4–	O	Motor driver (4) reverse-action output
22	D4+	O	Motor driver (4) forward-action output
23	PGND2	—	Ground connection (2) for driver
24	PVCC2	I	Power supply (2) for driver

• IC702 (MN662741RA) Servo processor / Digital signal processor / Digital filter / D/A converter

Pin No.	Mark	I/O	Function
1	BCLK	O	Serial bit clock terminal (Not used, open)
2	LRCK	O	L/R discriminating signal (Not used, open)
3	SRDATA	O	Serial data (Not used, open)
4	DVDD1	I	Power supply (digital circuit) terminal
5	DVSS1	—	GND (digital circuit) terminal
6	TX	O	Digital audio interface signal
7	MCLK	I	Microprocessor command clock signal
8	MDATA	I	Microprocessor command data signal
9	MLD	I	Microprocessor command load signal
10	SENSE	O	Sense signal output (OFT,FESL,MAGEND,NAJEND,POSAD,SFG)
11	/FLOCK	O	Optical servo condition(focus)("L" : lead-in)
12	/TLOCK	O	Optical servo condition(tracking)("L" : lead-in)
13	BLKCK	O	Sub-code block clock (f=75Hz)
14	SQCK	I	External clock signal input for sub-code Q register.
15	SUBQ	O	Sub-code Q code output
16	DMUTE	I	Muting input ("H" : mute)
17	STAT	O	Status signal output (CRC,CUE,CLVS,TTSTVP,FCLV,SQCK)
18	/RST	I	Reset input
19	SMCK	O	1/2-divided clock signal of crystal oscillating at MSEL = "H" (fSMCK=8.4672MHz) 1/4-divided clock signal of crystal oscillating at MSEL="L" (fSMCK=4.2336MHz)
20	PMCK	O	1/192-divided clock signal of crystal oscillating (fPMCK=88.2kHz) (Not used, open)
21	TRV	O	Traverse servo control output
22	TVD	O	Traverse drive signal output
23	PC	O	Spindle motor ON signal output ("L" : ON)
24	ECM	O	Spindle motor drive signal output (forced mode output)
25	ECS	O	Spindle motor drive signal output (servo error signal output)
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive output
28	FOD	O	Focus drive output
29	VREF	I	D/A (drive) output (TVD,ECS,TRD,FOD, FBAL,TBAL) Reference voltage input.
30	FBAL	O	Focus balance adjustment output (Not used,open)
31	TBAL	O	Tracking balance adjustment output
32	FE	I	Focus error signal input (analog input)
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF envelope signal input
35	VDET	I	Vibration detection signal input ("H" : detection)
36	OFT	I	Off-track signal input ("H" : off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detection signal input ("L" : detection)
39	BDO	I	Dropout signal input ("H" : Dropout)
40	LDON	O	Laser on signal output ("H" : ON)
41	TES	O	Tracking error shunt signal output ("H" : shunt)
42	PLAY	O	Play signal out ("H" : PLAY)
43	WVEL	O	Double speed status signal output ("H" : DS)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	I	DSL bias (Not used, open)
47	DSLF	I/O	DSL loop filter
48	PLLF	I/O	PLL loop filter
49	VCOF	I/O	VCO loop filter (Not used, open)
50	AVDD2	I	Power supply input (for analog circuit)
51	AVSS2	—	GND (for analog circuit)
52	EFM	O	EFM signal output (Not used, open)
53	PCK	O	PLL extraction clock ouput (Not used, open) (fPCK=4.321 MHz during normal playback)
54	PDO	O	Phase comparison signal of EFM and PCK signals (Not used, open)
55	SUBC	O	Sub-code serial data output (Not used, open)
56	SBCK	I	Sub-code frame clock signal output (fCLDCK=7.35kHz during normal playback)
57	VSS	—	GND
58	X1	I	Crystal oscillating circuit input (f=16.9344MHz)
59	X2	O	Crystal oscillating circuit output (f=16.9344MHz)
60	VDD	I	Power supply input (for oscillating circuit)
61	BYTCK	O	Byte clock output (Not used, open)
62	/CLDCK	O	Clock input for sub-code serial data (Not used, open)
63	FCLK	O	Crystal frame clock signal output (fCLK=7.35kHz, double=14.7kHz)
64	IPFLAG	O	Interpolation flag output ("H" : interpolation) (Not used, open)
65	FLAG	O	Flag output (Not used, open)
66	CLVS	O	Spindle servo phase synchronizing signal outpu ("H" : CLV, "L" : rough servo) (Not used, open)
67	CRC	O	Sub-code CRC checked output ("H" : OK, "L" : NG) (Not used, open)
68	DEMPH	O	De-emphasis ON signal output ("H" : ON) (Not used, open)
69	RESY	O	Frame resynchronizing signal output (Not used, open)
70	/RST2	I	Reset input through MASH circuit ("L" : Reset)
71	/TEST	I	Test input

Pin No.	Mark	I/O	Function
72	AVDD1	I	Power supply input (for analog circuit)
73	OUTL	O	Left channel audio signal output
74	AVSS1	—	GND
75	OUTR	O	Right channel audio signal output
76	RSEL	I	RF signal polarity assignment input
			(at "H" level, RSEL="H", at "L" level, RESL="L")
77	CSEL	I	Crystal oscillating frequency designation input
			"L" : 16.9344MHz "H" : 33.8688MHz
78	PSEL	I	Test input (normally "L") (Not used, open)
79	MSEL	I	Output mode switching of SUBQ terminal
			("H" : Q code buffer mode)
80	SSEL	I	Output frequency switching for SMCK terminal
			"H" : SMCK=8.4672MHz
			"L" : MCK=4.2336MHz (Not used, open)

• IC401 (UPD78043A046) System Control

Pin No.	Mark	I/O	Function
1~6	NC	—	Not connected.
7	LIGHT	—	Not connected.
8	VDD	I	Power input.
9	SCK	O	Serial clock output.
10	SDO	O	Not connected.
11	SDI	I	Serial data input.
12	/CS	O	Chip select
13	DMUTE	O	Muting control.
14	SQCK	O	Sub code Q resistor clock output.
15	NC	—	Not connected.
16	SUBQ	I	Sub code Q data input.
17	/RESET	I	Reset signal input.
18	KBCLK	—	Not connected.
19	KBDATA	—	Not connected.
20	AVSS	—	GND
21	/RSTSV	O	Reset signal output.
22	CDREQ	O	CD request signal output.
23	DIR	O	Motor control signal.
24	SLIDE	O	Motor control signal output.
25	LOAD	O	Motor control signal.
26	NC	—	Not connected.
27	H-60	—	No use (connect to power).
28	NC	—	Not connected.
29	AVDD	I	Power input.
30	AVREF	I	GND
31	XT1	—	GND
32	XT2	—	Not connected.
33	VSS	—	GND
34	X1	I	Ceramic oscillator (f=4.2336MHz)
35	X2	O	Ceramic oscillator (f=4.2336MHz)
36	MCLK	O	Command clock signal output.
37	MDATA	O	Command data signal output.
38	MLD	O	Command load signal output ("L" : Load)
39~42	NC	—	Not connected.
43	PWM	O	Motor control signal output.
44	POFF	O	GND
45	POSITION	I	Tray position detection input.
46	SPEED	I	Loading motor speed sensor.
47	REMOCON	I	GND
48	IC	—	Not connected.
49	/EPHOLD	—	Not connected.
50	EPSO	—	Not connected.
52	VDD	I	Power input.
53	POWER	O	Not connected.
54	EPSI	I	Not connected.
55	/EPCS	—	Not connected.
56	SINGLE	I	Disc slot detection (Single play).
57	DISC	I	Disc control signal input.
58	MLOCK	I	Mechanism detection (S501).
59	CLAMP	I	Mechanism detection (S502).
60	FREE	I	Mechanism detection (S503).
61	NC	—	Not connected.
62	STAT	I	Status signal input.
63	REST	I	Rest position detection.
64	MSC	—	Not connected.
65	STP1	—	GND
66~70	NC	—	Not connected (Open).
71	VPP	—	GND
72~80	NC	—	Not connected.

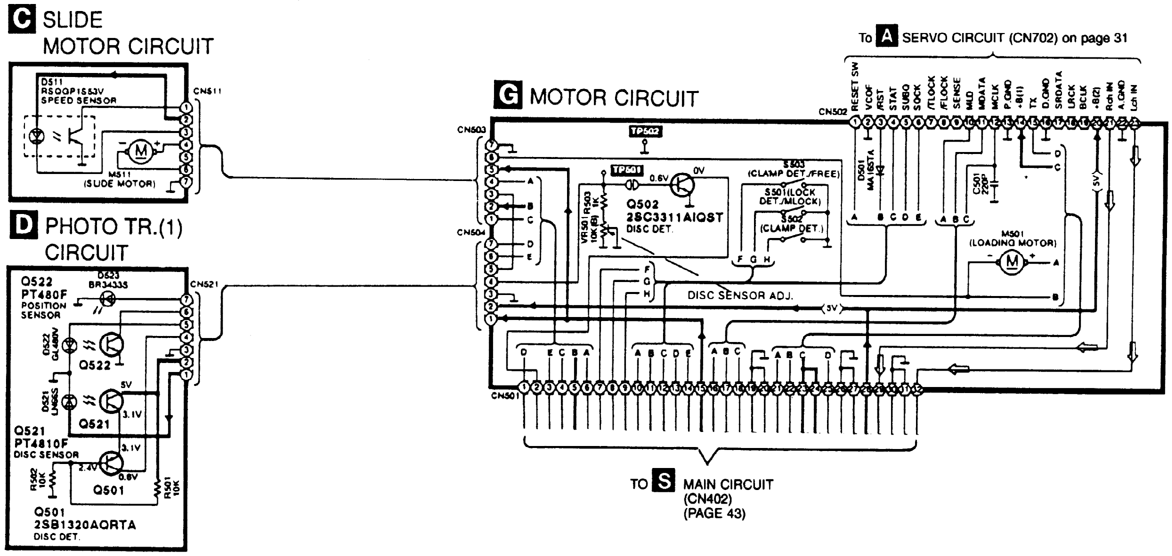
• IC601 (M38197MA137F) System Microprocessor

Pin No.	Mark	I/O	Function
1	DECK2	I	Mecha condition input.
2	DECK1	I	(HALF / REC1 F / MODE / REC1 R)
3	TPS IN	I	TPS input.
4	CRT	—	CRT input.
5~8	KEY4 ~ KEY1	I	Key switch input.
9	SER1	O	Serial clock (EX1 CLK, EX2 CLK)
10	VOL	O	Volume control data output.
11	SER2	O	Serial data/clock(EX1 DAT, EX3 CLK, GEC CLK)
12	SER3	O	Serial data (EX2 DAT, GEC DAT).
13	SER4	O	Serial data (EX3 DAT).
14	KEY LAT	O	Key latch (for key control).
15	ECHO VR	I	Echo VR data in.
16~18	ECHO3 ~ 1	O	Echo data output.
19	CS	I	CD CS.
20	CLK1	I	CD clock input.
21	SO1	O	CD data output.
22	SI1	I	CD data input.
23	REQ	I/O	CD request.
24	MCRST	O	MCRST.
25	/PLLCE	O	/Tuner PLL chip enable.
26	/PLLDA	O	/Tuner Pll data output.
27	/PLLCK	O	/Tuner clock output.
28	MIC SW	O	MIC jack SW on/off
29	NC	—	NC
30	CD MPCN	O	MECHA control power.
31	RMT	I	Remote control input.
32	DCDET	I	DC detect input.
31	RMT	I	Remote contrl signal input.

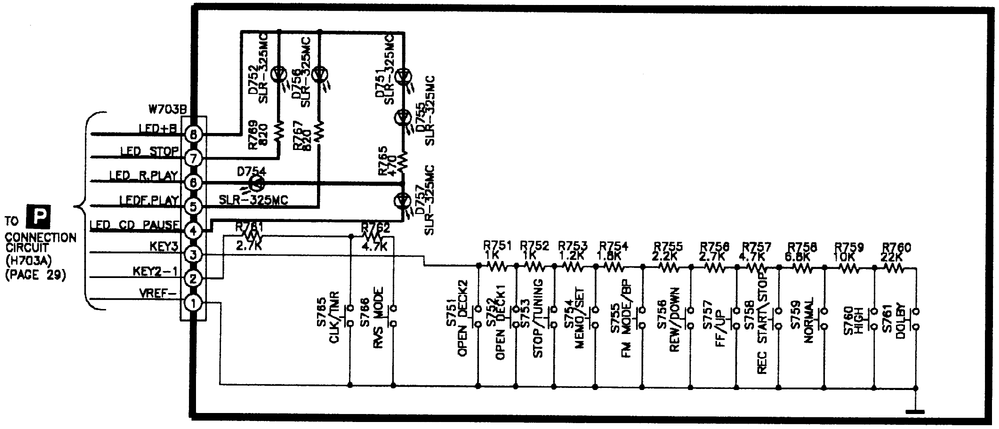
Pin No.	Mark	I/O	Function
32	DCDET	I	DC detection.
33	P.CONT	O	Power control signal input.
34	SYNC	I	AC failure detect input.
35	RESET	I	Reset input.
36	XCIN	O	32.768 sub clock
37	XCOUT	I	
38	XIN	I	6MHz main clock
39	XOUT	O	6MHz main clock.
40	VSS	—	GND
41	MBP1	O	MPU beat proof output 1.
42	MBP2	O	MPU beat proof output 2.
43~48	NC	—	NC
50~64	GRD1 ~ 16	O	Digit drive output (GRID).
65~80	AND1 ~16	O	Segment drive output (ANODE).
81~88	AND17 ~ 24	O	Segment drive output (ANODE) and
	REG8 ~ 1	O	key scan ouput.
89	JOGA	I	JOG input A.
90	JOGB	I	JOG input B.
91	VCC	—	Power (+5V).
92	REG IN	I	Area setting input.
93	MKCLK	O	Deck control clock output.
94	MKDAT	O	Deck control data output.
95	SD	I	Tuner signal detection input.
96	STERO	I	Tuner stereo detection input.
97	DO	I	Tuner PLL IF data input.
98	VP	—	Power (-30V).
99	AVSS	—	Power (0V)
100	VREF	—	Reference A-D.

■ Schematic Diagram

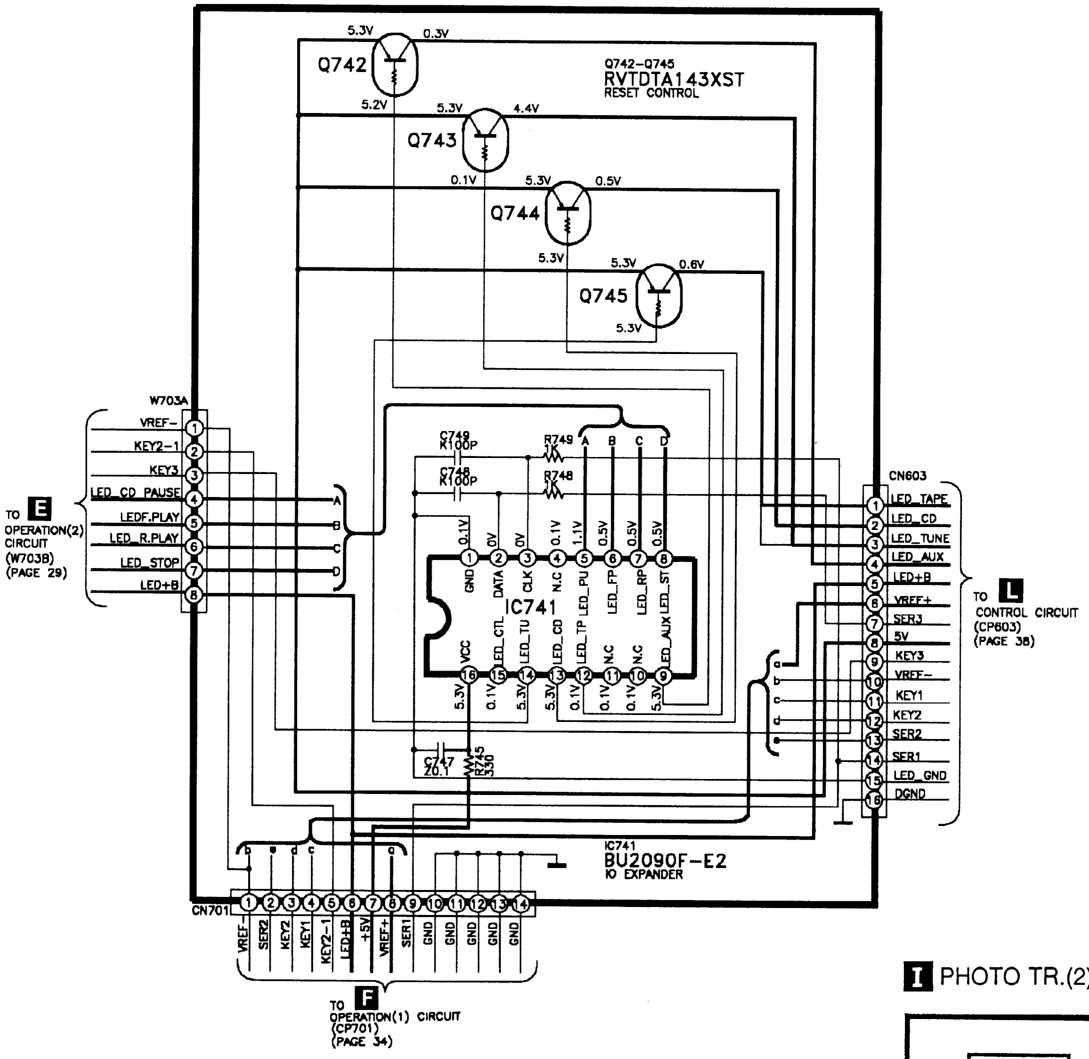
(All schematic diagrams may be modified at any time with the development of new technology)


C SLIDE MOTOR CIRCUIT
D511
RSQQP1S53V
SPEED SENSOR
M511
(SLIDE MOTOR)
CN511
D PHOTO TR.(1) CIRCUIT
Q522
PT480F
POSITION SENSOR
D523
BR3433S
CN521
D522
GL480V
Q522
D521
LN66S
5V
3.1V
Q521
Q521
PT4810F
DISC SENSOR
2.4V
0.6V
R502
10K
Q501
R501
10K
Q501
2SB1320AQRTA
DISC DET.
G MOTOR CIRCUIT
CN503
CN504
TP502
TP501
0.6V
0V
VR501 10K(B)
R503 1K
Q502
2SC3311AIQST
DISC DET.
S503
(CLAMP DET./FREE)
S501(LOCK DET./MLOCK)
S502
(CLAMP DET.)
DISC SENSOR ADJ.
(5V)
To A SERVO CIRCUIT (CN702) on page 31
CN502
RESET SW
VCOF
/RST
STAT
SUBQ
SQCK
/TLOCK
/FLOCK
SENSE
MLD
MDATA
MCLK
P.GND
+B(1)
TX
D.GND
SRDATA
LRCK
BCLK
+B(2)
Rch IN
A.GND
Lch IN
D501
MA165TA
C501
220P
M501
(LOADING MOTOR)
(5V)
CN501
TO S MAIN CIRCUIT
(CN402)
(PAGE 43)

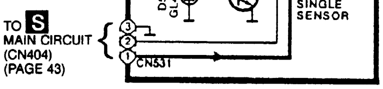
E OPERATION (2) CIRCUIT


W703B
LED+B
LED_STOP
LED_R.PLAY
LEDF.PLAY
LED_CD_PAUSE
KEY3
KEY2-1
VREF-
8
7
6
5
4
3
2
1
TO P CONNECTION CIRCUIT (H703A) (PAGE 29)
D752 SLR-325MC
D756 SLR-325MC
D751 SLR-325MC
D755 SLR-325MC
D754 SLR-325MC
D757 SLR-325MC
R769 820
R767 820
R765 470
R761 2.7K
R762 4.7K
R751 1K
R752 1K
R753 1.2K
R754 1.8K
R755 2.2K
R756 2.7K
R757 4.7K
R758 6.8K
R759 10K
R760 22K
S785 CLK/TNR
S786 RVS MODE
S751 OPEN_DECK2
S752 OPEN DECK1
S753 STOP/TUNING
S754 MEMO/SET
S755 FM MODE/BP
S756 REW/DOWN
S757 FF/UP
S758 REC START\STOP
S759 NORMAL
S760 HIGH
S761 DOLBY

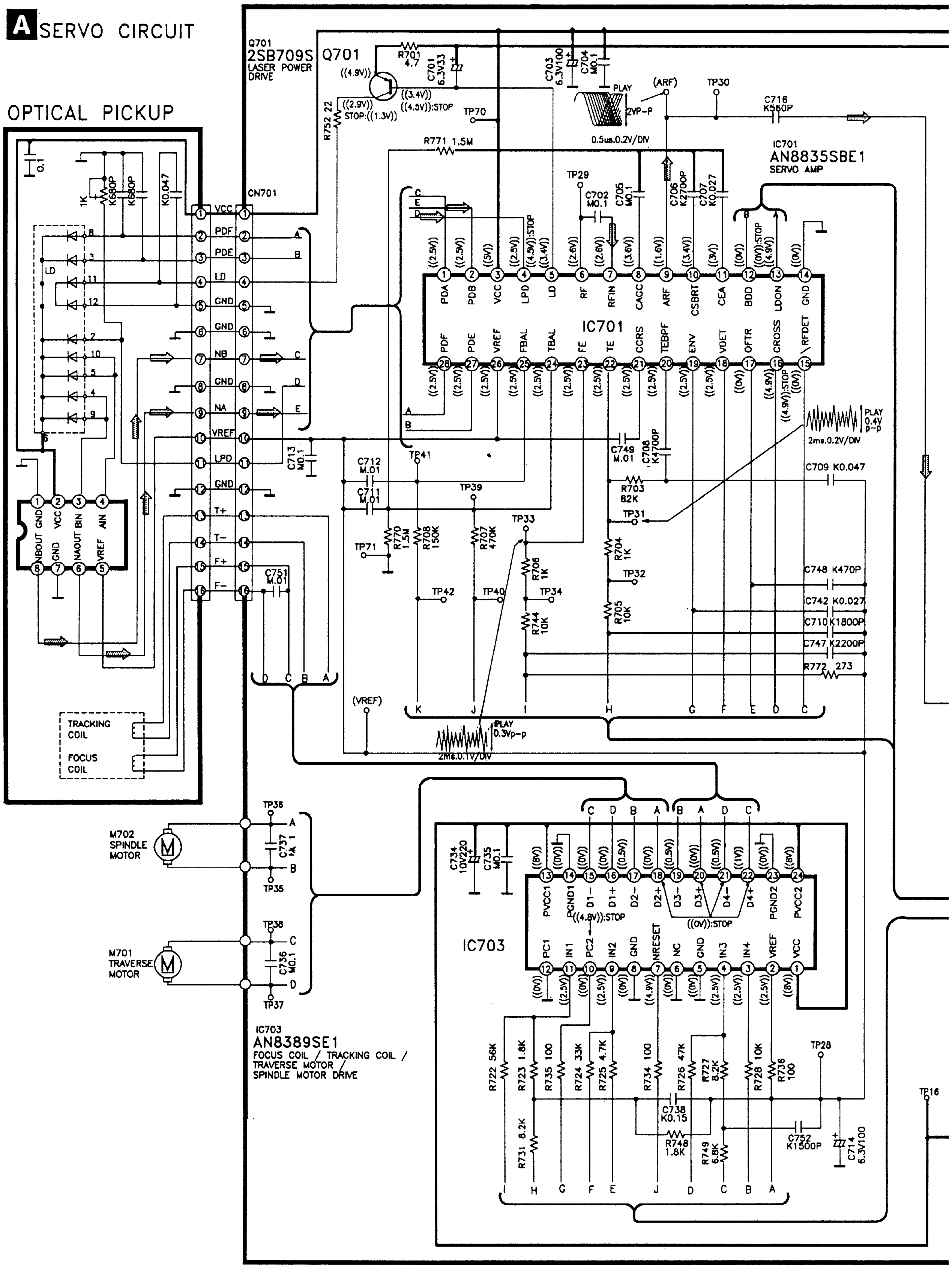
P CONNECTION CIRCUIT

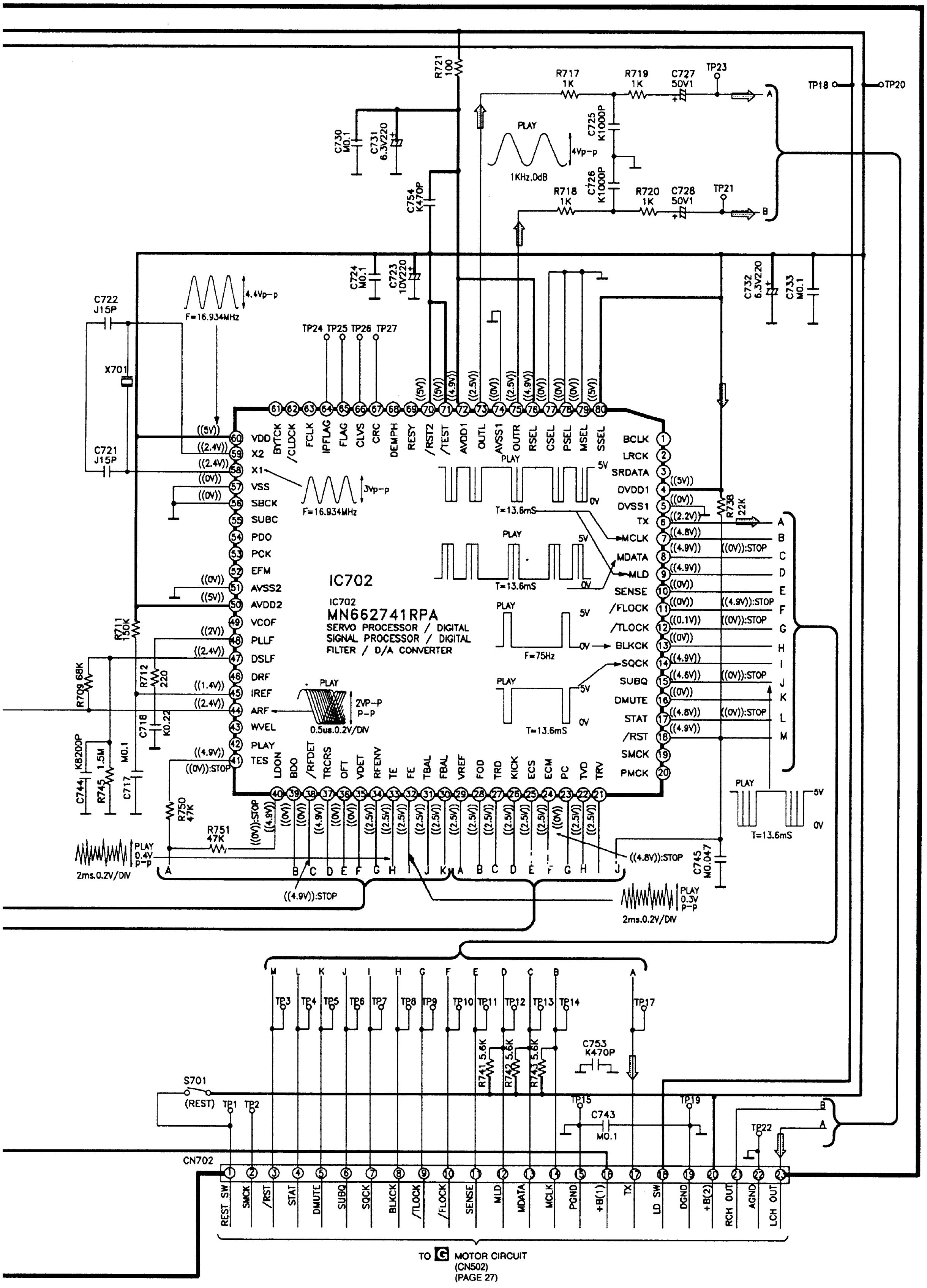

Q742
Q743
Q744
Q745
5.3V
0.3V
5.2V
4.4V
0.1V
0.5V
0.6V
Q742-Q745
RVTDTA143XST
RESET CONTROL
W703A
VREF-
KEY2-1
KEY3
LED_CD_PAUSE
LEDF.PLAY
LED_R.PLAY
LED_STOP
LED+B
TO E OPERATION(2) CIRCUIT (W703B) (PAGE 29)
C749 X100P
C748 X100P
R749 1K
R748 1K
A
B
C
D
IC741
GND
DATA
CLK
N.C
LED_PU
LED_FP
LED_RP
LED_ST
VCC
LED_CTL
LED_TU
LED_CD
LED_TP
N.C
N.C
LED_AUX
C747 Z0.1
R745 330
CN603
LED_TAPE
LED_CD
LED_TUNE
LED_AUX
LED+B
VREF+
SER3
5V
KEY3
VREF-
KEY1
KEY2
SER2
SER1
LED_GND
DGND
TO L CONTROL CIRCUIT (CP603) (PAGE 38)
a
b
c
d
e
IC741
BU2090F-E2
IO EXPANDER
CN701
VREF-
SER2
KEY2
KEY1
KEY2-1
LED+B
+5V
VREF+
SER1
GND
GND
GND
GND
GND
TO F OPERATION(1) CIRCUIT (CP701) (PAGE 34)

I PHOTO TR.(2) CIRCUIT


(4.6V)
0V
D531 GL480V
Q531
PT480F
SINGLE SENSOR
3
2
1
CN531
TO S MAIN CIRCUIT (CN404) (PAGE 43)

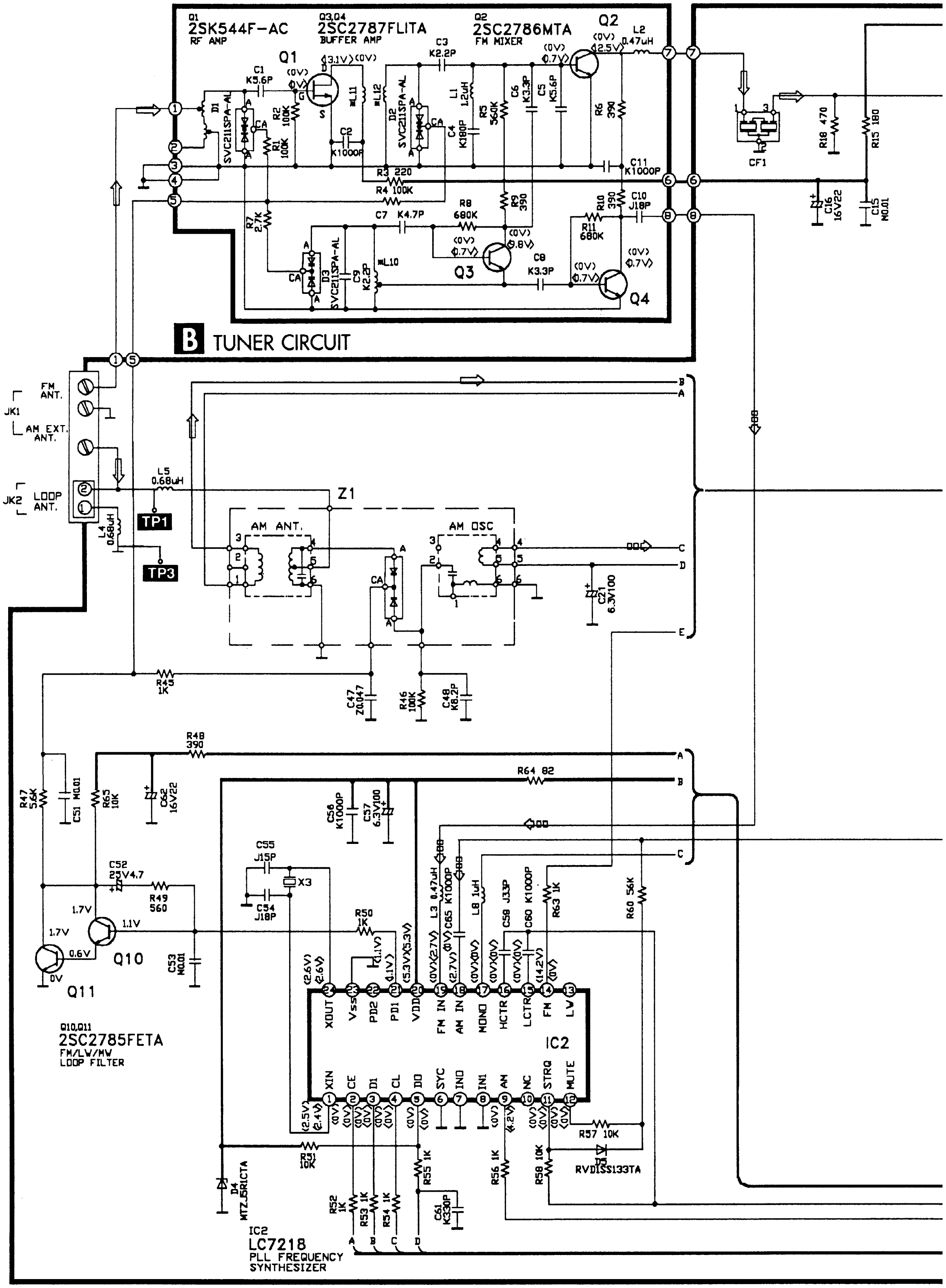
A SERVO CIRCUIT

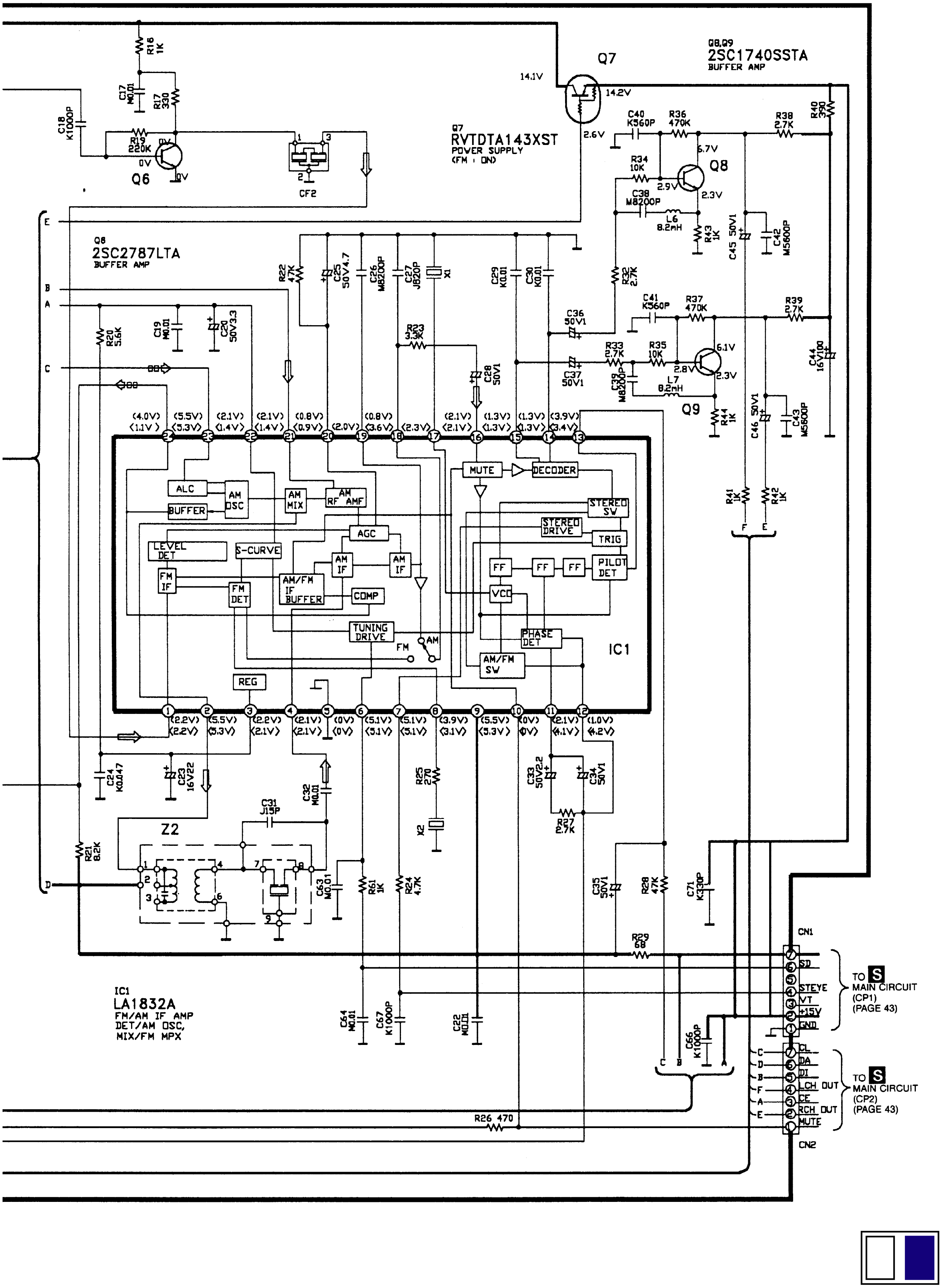

OPTICAL PICKUP
Q701
2SB709S Q701
LASER POWER DRIVE
R701 4.7
C701 6.3V33
R752 22
STOP:((1.3V))
((4.5V)):STOP
TP70
R771 1.5M
C703 6.3V100
C704 M0.1
PLAY
2VP-P
0.5us.0.2V/DIV
(ARF)
TP30
C716 K560P
IC701
AN8835SBE1
SERVO AMP
TP29
C702 M0.1
C705 M0.1
C706 K2700P
C707 K0.027
CN701
VCC
PDF
PDE
LD
GND
NB
NA
VREF
LPD
T+
T−
F+
F−
NBOUT
GND
VCC
BIN
NAOUT
AIN
VREF
1K
K680P
K0.047
0.1
LD
TRACKING COIL
FOCUS COIL
PDA
PDB
VCC
LPD
LD
RF
RFIN
CAGC
ARF
CSBRT
CEA
BDO
LDON
GND
IC701
PDF
PDE
VREF
FBAL
TBAL
FE
TE
CCRS
TEBPF
ENV
VDET
OFTR
CROSS
RFDET
PLAY 0.4V p-p
2ms.0.2V/DIV
C709 K0.047
C713 M0.1
C712 M.01
C711 M.01
TP41
TP39
C749 M.01
C708 K4700P
R703 82K
TP31
TP33
TP71
R770 1.5M
R708 150K
R707 470K
R706 1K
R704 1K
TP32
C748 K470P
C742 K0.027
C710 K1800P
C747 K2200P
R772 273
TP42
TP40
TP34
R744 10K
R705 10K
C751 M.01
(VREF)
PLAY 0.3Vp-p
2ms.0.1V/DIV
TP36
TP35
M702 SPINDLE MOTOR
C737 M0.1
TP38
TP37
M701 TRAVERSE MOTOR
C736 M0.1
IC703
AN8389SE1
FOCUS COIL / TRACKING COIL / TRAVERSE MOTOR / SPINDLE MOTOR DRIVE
C734 10V220
C735 M0.1
PVCC1
PGND1
D1−
D1+
D2−
D2+
D3−
D3+
D4−
D4+
PGND2
PVCC2
((4.8V)):STOP
((0V)):STOP
IC703
PC1
IN1
PC2
IN2
GND
NRESET
NC
GND
IN3
IN4
VREF
VCC
R722 56K
R723 1.8K
R735 100
R724 33K
R725 4.7K
R734 100
R726 47K
R727 8.2K
R728 10K
R736 100
TP28
TP16
R731 8.2K
C738 K0.15
R748 1.8K
R749 6.8K
C752 K1500P
C714 6.3V100



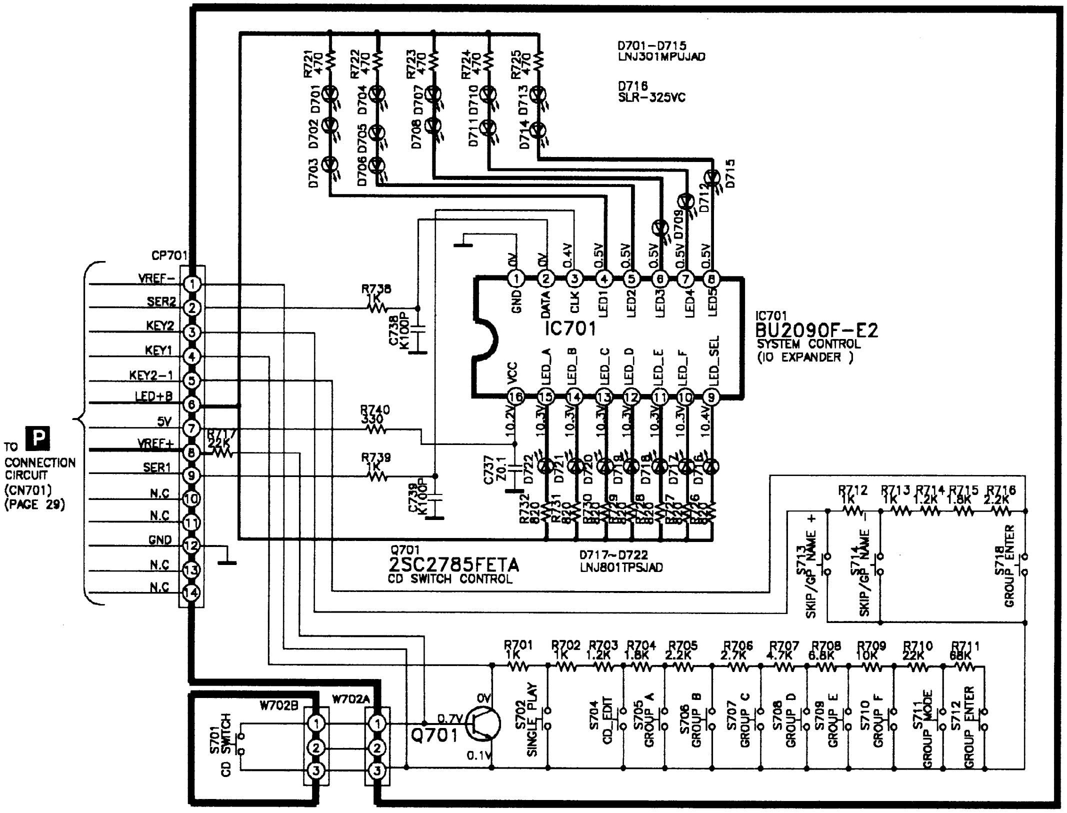
IC702
MN662741RPA
SERVO PROCESSOR / DIGITAL SIGNAL PROCESSOR / DIGITAL FILTER / D/A CONVERTER
R721 100
R717 1K
R719 1K
C727 50V1
TP23
TP18
TP20
C730 M0.1
C731 6.3V220
PLAY
4Vp-p
1KHz,0dB
C725 K1000P
C726 K1000P
R718 1K
R720 1K
C728 50V1
TP21
C754 K470P
C724 M0.1
C723 10V220
C732 6.3V220
C733 M0.1
C722 J15P
X701
C721 J15P
4.4Vp-p
F=16.934MHz
3Vp-p
TP24 TP25 TP26 TP27
VDD
X2
X1
VSS
SBCK
SUBC
PDO
PCK
EFM
AVSS2
AVDD2
VCOF
PLLF
DSLF
DRF
IREF
ARF
WVEL
PLAY
TES
BYTCK
/CLDCK
FCLK
IPFLAG
FLAG
CLVS
CRC
DEMPH
RESY
/RST2
/TEST
AVDD1
OUTL
AVSS1
OUTR
RSEL
CSEL
PSEL
MSEL
SSEL
BCLK
LRCK
SRDATA
DVDD1
DVSS1
TX
MCLK
MDATA
MLD
SENSE
/FLOCK
/TLOCK
BLKCK
SQCK
SUBQ
DMUTE
STAT
/RST
SMCK
PMCK
LDON
BDO
/RFDET
TRCRS
OFT
VDET
RFENV
TE
FE
TBAL
FBAL
VREF
FOD
TRD
KICK
ECS
ECM
PC
TVD
TRV
T=13.6mS
F=75Hz
5V
0V
2VP-P P-P
0.5us.0.2V/DIV
R711 150K
R712 220
R709 68K
C718 K0.22
C744 K8200P
R745 1.5M
C717 M0.1
R750 47K
R751 47K
PLAY 0.4V P-P
2ms.0.2V/DIV
((4.9V)):STOP
((4.8V)):STOP
PLAY 0.3V P-P
((0V)):STOP
((4.9V)):STOP
R738 22K
C745 M0.047
TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13 TP14 TP17
R741 5.6K
R742 5.6K
R743 5.6K
C753 K470P
S701
(REST)
TP1 TP2
TP15
TP19
C743 M0.1
TP22
CN702
REST SW
SMCK
/RST
STAT
DMUTE
SUBQ
SQCK
BLKCK
/TLOCK
/FLOCK
SENSE
MLD
MDATA
MCLK
PGND
+B(1)
TX
LD SW
DGND
+B(2)
RCH OUT
AGND
LCH OUT
TO G MOTOR CIRCUIT
(CN502)
(PAGE 27)

T TUNER PACK CIRCUIT


Q1 2SK544F-AC RF AMP
Q3,Q4 2SC2787FLITA BUFFER AMP
Q2 2SC2786MTA FM MIXER
Q1
Q2
Q3
Q4
C1 K5.6P
R2 100K
R1 100K
D1 SVC211SPA-AL
D2 SVC211SPA-AL
D3 SVC211SPA-AL
C2 K1000P
C3 K2.2P
L1 1.2uH
C4 K180P
R5 560K
C6 K3.3P
C5 K5.6P
R6 390
L2 0.47uH
C11 K1000P
R3 220
R4 100K
R7 2.7K
C7 K4.7P
R8 680K
R9 390
R10 390
R11 680K
C10 J18P
C9 K2.2P
C8 K3.3P
*L10
*L11
*L12
CF1
R18 470
R15 180
C16 16V22
C15 M0.01
B TUNER CIRCUIT
JK1 FM ANT.
AM EXT. ANT.
JK2 LOOP ANT.
L5 0.68uH
L4 0.68uH
TP1
TP3
Z1
AM ANT.
AM OSC
C21 6.3V100
R45 1K
C47 Z0.047
R46 100K
C48 K8.2P
R48 390
R64 82
R47 5.6K
C51 M0.01
R65 10K
C62 16V22
C56 K1000P
C57 6.3V100
C55 J15P
X3
C54 J18P
C52 25V4.7
R49 560
R50 1K
C53 M0.01
L3 0.47uH
C65 K1000P
L8 1uH
C58 J33P
C60 K1000P
R63 1K
R60 56K
Q10
Q11
Q10,Q11 2SC2785FETA FM/LW/MW LOOP FILTER
IC2
XOUT Vss PD2 PD1 VDD FM IN AM IN MONO HCTR LCTR FM LV
XIN CE DI CL DO SYC IN0 IN1 AM NC STRQ MUTE
R51 10K
R52 1K
R53 1K
R54 1K
R55 1K
C61 K330P
R56 1K
R58 10K
R57 10K
D5 RVD1SS133TA
D4 MTZJ5R1CTA
IC2 LC7218 PLL FREQUENCY SYNTHESIZER
A B C D E

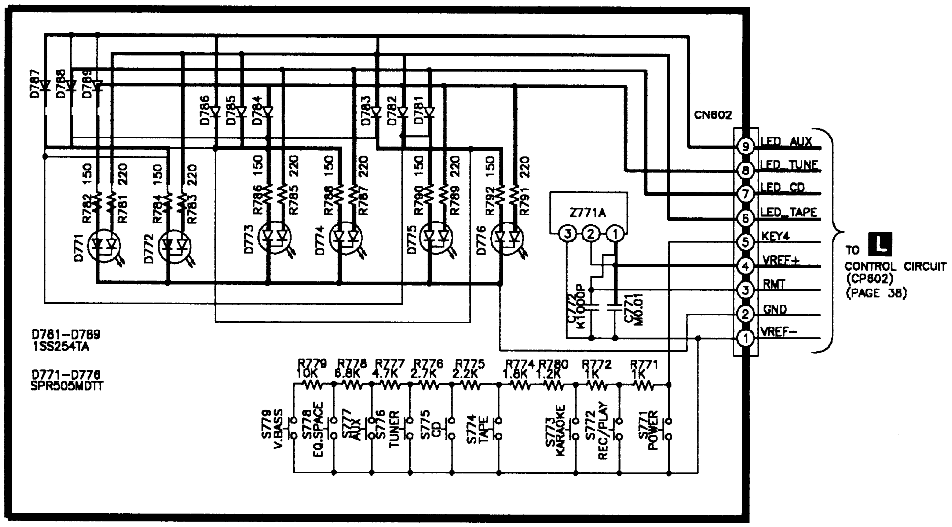

Q7
Q8,Q9
2SC1740SSTA
BUFFER AMP
Q7
RVTDTA143XST
POWER SUPPLY
(FM : ON)
14.1V
14.2V
2.6V
Q6
2SC2787LTA
BUFFER AMP
R16 1K
C17 M0.01
R17 330
C18 K1000P
R19 220K
0V
CF2
C40 K560P
R36 470K
R38 2.7K
R40 390
R34 10K
5.7V
2.9V
2.3V
Q8
C38 M8200P
L6 8.2mH
R43 1K
C45 50V1
C42 M5600P
R22 47K
C25 50V4.7
C26 M8200P
C27 J820P
X1
C29 K0.01
C30 K0.01
R32 2.7K
C36 50V1
C41 K560P
R37 470K
R39 2.7K
C44 16V100
R20 5.6K
C19 M0.01
C20 50V3.3
R23 3.3K
C28 50V1
C37 50V1
R33 2.7K
R35 10K
C39 M8200P
L7 8.2mH
6.1V
2.8V
2.3V
Q9
R44 1K
C46 50V1
C43 M5600P
R41 1K
R42 1K
ALC
AM OSC
AM MIX
AM RF AMF
BUFFER
AGC
LEVEL DET
S-CURVE
AM IF
AM IF
FM IF
FM DET
AM/FM IF BUFFER
COMP
TUNING DRIVE
AM
FM
REG
MUTE
DECODER
STEREO SW
STEREO DRIVE
TRIG
FF
FF
FF
PILOT DET
VCO
PHASE DET
AM/FM SW
IC1
C24 K0.047
C23 16V22
C31 J15P
C32 M0.01
R25 270
X2
C33 50V2.2
C34 50V1
R27 2.7K
Z2
R21 8.2K
C63 M0.01
R61 1K
R24 4.7K
C35 50V1
R28 47K
C71 K330P
R29 68
IC1
LA1832A
FM/AM IF AMP
DET/AM OSC,
MIX/FM MPX
C64 M0.01
C67 K1000P
C22 M0.01
C66 K1000P
R26 470
CN1
SD
STEYE
VT
+15V
GND
TO S MAIN CIRCUIT (CP1) (PAGE 43)
CN2
CL
DA
DI
LCH OUT
CE
RCH OUT
MUTE
TO S MAIN CIRCUIT (CP2) (PAGE 43)
A
B
C
D
E
F

F OPERATION (1) CIRCUIT

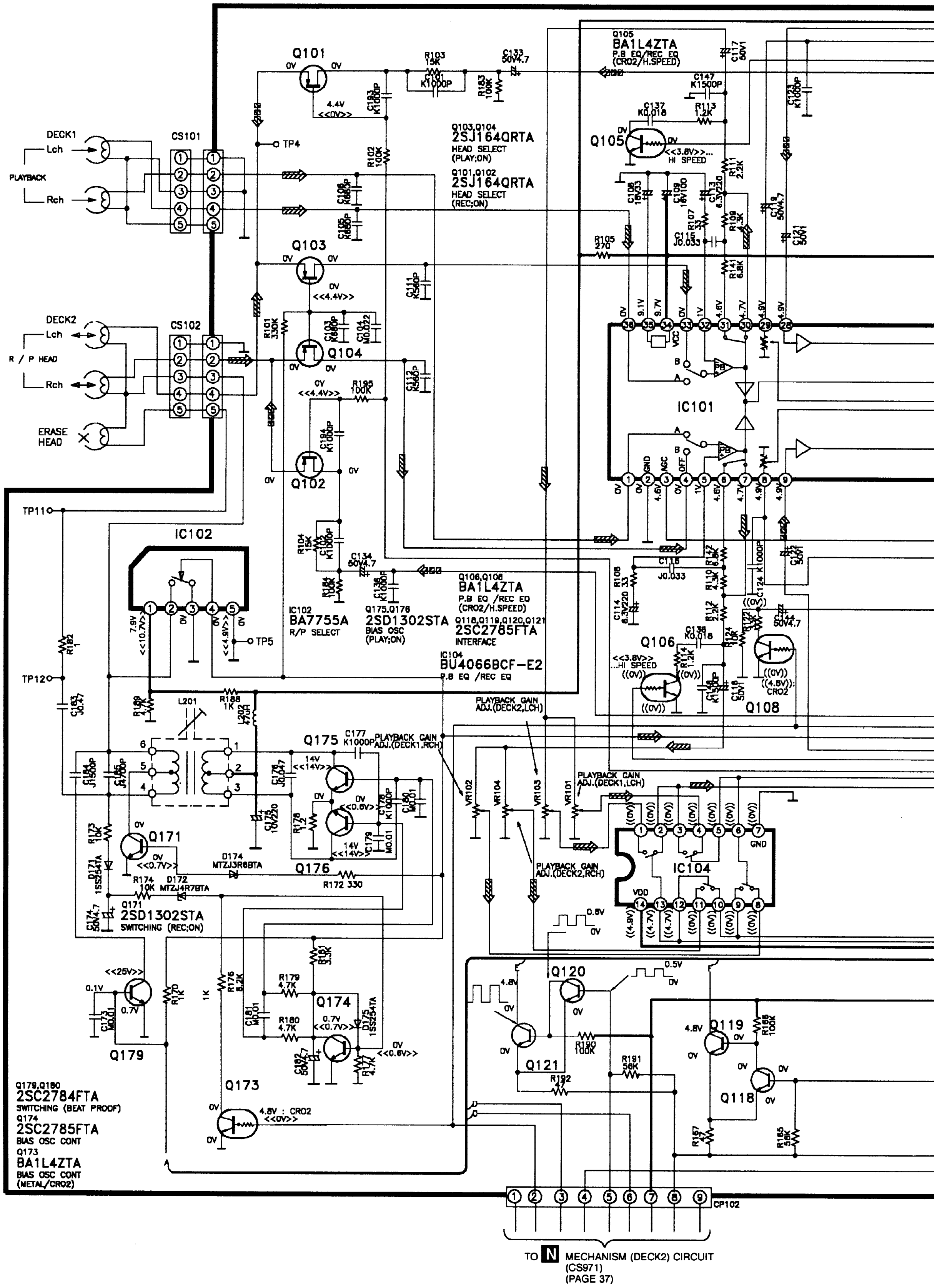

D701–D715
LNJ301MPUJAD
D716
SLR-325VC
R721 470
R722 470
R723 470
R724 470
R725 470
D701 D702 D703 D704 D705 D706 D707 D708 D709 D710 D711 D712 D713 D714 D715
CP701
VREF-
SER2
KEY2
KEY1
KEY2-1
LED+B
5V
VREF+
SER1
N.C
N.C
GND
N.C
N.C
TO P
CONNECTION CIRCUIT (CN701) (PAGE 29)
R738 1K
C738 K100P
R740 330
R717 22K
R739 1K
C739 K100P
C737 Z0.1
IC701
GND DATA CLK LED1 LED2 LED3 LED4 LED5
VCC LED_A LED_B LED_C LED_D LED_E LED_F LED_SEL
0V 0V 0.4V 0.5V 0.5V 0.5V 0.5V 0.5V
10.2V 10.3V 10.3V 10.3V 10.3V 10.3V 10.3V 10.4V
IC701
BU2090F-E2
SYSTEM CONTROL
(IO EXPANDER)
D717 D718 D719 D720 D721 D722
R726 R727 R728 R729 R730 R731 R732 820
Q701
2SC2785FETA
CD SWITCH CONTROL
D717~D722
LNJ801TPSJAD
R712 1K
R713 1K
R714 1.2K
R715 1.8K
R716 2.2K
S713 SKIP/GP NAME +
S714 SKIP/GP NAME −
S718 GROUP ENTER
R701 1K
R702 1K
R703 1.2K
R704 1.8K
R705 2.2K
R706 2.7K
R707 4.7K
R708 6.8K
R709 10K
R710 22K
R711 68K
S702 SINGLE PLAY
S704 CD_EDIT
S705 GROUP A
S706 GROUP B
S707 GROUP C
S708 GROUP D
S709 GROUP E
S710 GROUP F
S711 GROUP MODE
S712 GROUP ENTER
W702B
W702A
S701 CD SWITCH
Q701
0V
0.7V
0.1V

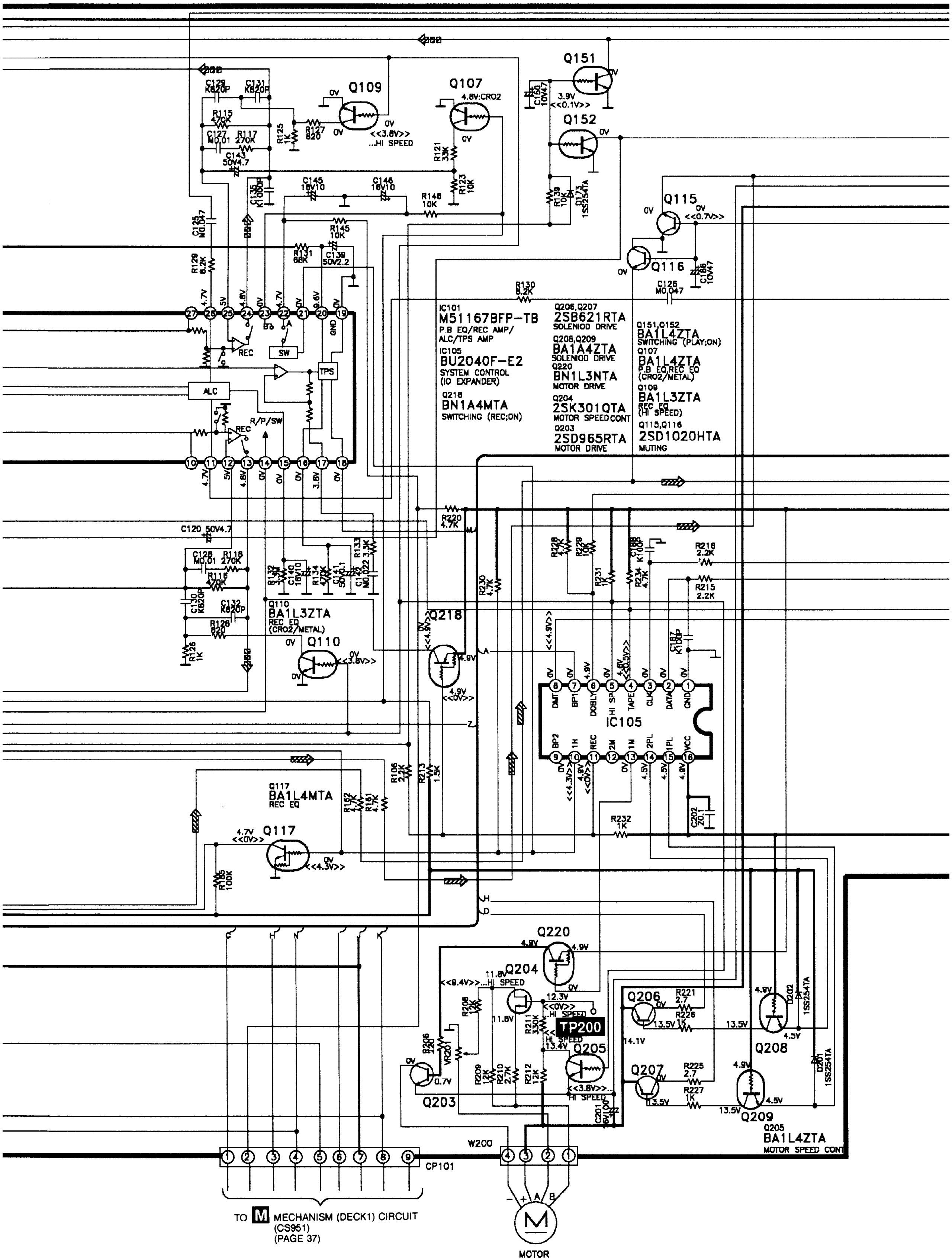
Q CD SWITCH CIRCUIT

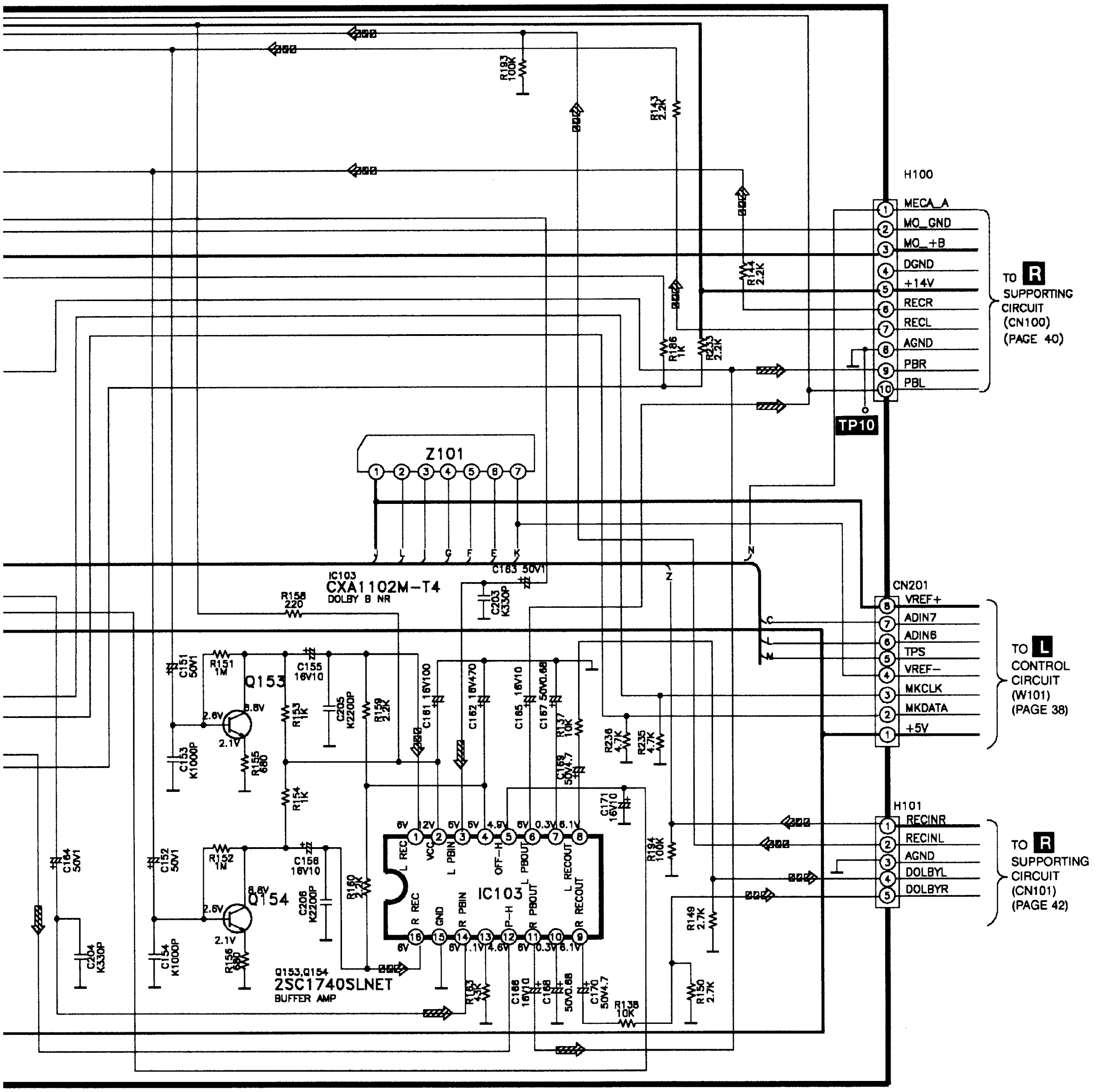
H PANEL CIRCUIT


D787 D788 D789
D786 D785 D784 D783 D782 D781
R782 150
R781 220
R784 150
R783 220
R786 150
R785 220
R788 150
R787 220
R790 150
R789 220
R792 150
R791 220
D771 D772 D773 D774 D775 D776
Z771A
C772 K1000P
C771 M0.01
CN802
LED_AUX
LED_TUNE
LED_CD
LED_TAPE
KEY4
VREF+
RMT
GND
VREF−
TO L
CONTROL CIRCUIT (CP802) (PAGE 38)
D781–D789
1SS254TA
D771–D776
SPR505MDTT
R779 10K
R778 6.8K
R777 4.7K
R776 2.7K
R775 2.2K
R774 1.8K
R780 1.2K
R772 1K
R771 1K
S779 V.BASS
S778 EQ.SPACE
S777 AUX
S776 TUNER
S775 CD
S774 TAPE
S773 KARAOKE
S772 REC/PLAY
S771 POWER

O DECK CIRCUIT

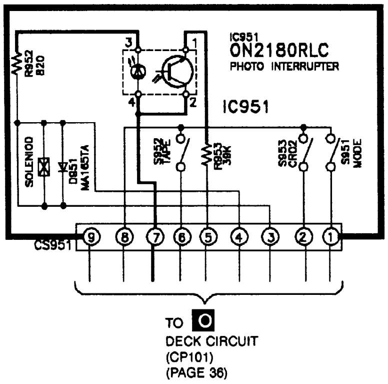

DECK1
Lch
PLAYBACK
Rch
CS101
DECK2
Lch
R / P HEAD
Rch
ERASE HEAD
CS102
Q101
R103 15K
C101 K1000P
C133 50V4.7
R183 100K
C183 K1000P
4.4V <<0V>>
TP4
R102 100K
C106 K680P
C105 K680P
Q103,Q104 2SJ164QRTA HEAD SELECT (PLAY;ON)
Q101,Q102 2SJ164QRTA HEAD SELECT (REC;ON)
Q103
C111 K560P
<<4.4V>>
R101 330K
C103 K680P
C104 M0.012
Q104
C112 K560P
R195 100K
C184 K1000P
Q102
TP11
TP12
IC102
R182 1
C153 J0.47
7.9V <<10.7V>>
<<4.9V>>
TP5
R104 15K
C102 K1000P
C134 50V4.7
R184 100K
C136 K1000P
IC102 BA7755A R/P SELECT
Q175,Q176 2SD1302STA BIAS OSC (PLAY;ON)
Q106,Q108 BA1L4ZTA P.B EQ /REC EQ (CRO2/H.SPEED)
Q118,Q119,Q120,Q121 2SC2785FTA INTERFACE
IC104 BU4066BCF-E2 P.B EQ /REC EQ
Q105 BA1L4ZTA P.B EQ/REC EQ (CRO2/H.SPEED)
C117 50V1
C147 K1500P
C137 K0.018
R113 1.2K
C123 K1000P
Q105
<<3.8V>>... HI SPEED
R111 2.2K
C108 16V33
C109 16V100
C113 6.3V220
R107 33
R109 4.3K
C119 50V4.7
C121 50V1
R105 270
C115 J0.033
R141 6.8K
IC101
VCC
GND
ALC
OFF
PB
R189 2.7K
R188 1K
L201
L202 47uH
Q175
C177 K1000P
PLAYBACK GAIN ADJ.(DECK1,RCH)
PLAYBACK GAIN ADJ.(DECK2,LCH)
PLAYBACK GAIN ADJ.(DECK1,LCH)
PLAYBACK GAIN ADJ.(DECK2,RCH)
VR102
VR104
VR103
VR101
C154 J1500P
C155 J4700P
C176 J0.047
C175 10V220
R178
C178 K1000P
C180 M0.01
C179 M0.01
<<14V>>
<<0.8V>>
Q176
R172 330
Q171
R173 10K
D171 1SS254TA
<<0.7V>>
D174 MTZJ3R6BTA
R174 10K
D172 MTZJ4R7BTA
C174 50V4.7
Q171 2SD1302STA SWITCHING (REC;ON)
R108 33
C116 J0.033
C114 6.3V220
R142 6.8K
R110 4.3K
R112 2.2K
C124 K1000P
C125 50V1
C144 50V4.7
Q106
C138 K0.018
R114 1.2K
R124 10K
R122
<<3.8V>> ...HI SPEED
C148 K1500P
C118 50V1
((4.8V)): CRO2
Q108
IC104
VDD
GND
0.8V
Q120
0.5V
4.8V
Q121
R190 100K
R191 56K
R192 47
Q119
R168 100K
Q118
R167 47
R155 56K
R181 3.3K
R179 4.7K
Q174
R180 4.7K
C181 M0.01
D175 1SS254TA
C182 50V4.7
R177 4.7K
<<0.7V>>
<<0.6V>>
<<25V>>
0.1V
0.7V
C173 M0.01
R170 1K
1K
R176 8.2K
Q179
Q173
4.8V : CRO2 <<0V>>
Q179,Q180 2SC2784FTA SWITCHING (BEAT PROOF)
Q174 2SC2785FTA BIAS OSC CONT
Q173 BA1L4ZTA BIAS OSC CONT (METAL/CRO2)
CP102
TO N MECHANISM (DECK2) CIRCUIT (CS971) (PAGE 37)


Q151
Q152
Q109
Q107
Q115
Q116
Q117
Q110
Q218
Q220
Q204
Q205
Q203
Q206
Q207
Q208
Q209
IC101
M51167BFP-TB
P.B EQ/REC AMP/
ALC/TPS AMP
IC105
BU2040F-E2
SYSTEM CONTROL
(IO EXPANDER)
Q218
BN1A4MTA
SWITCHING (REC;ON)
Q206,Q207
2SB621RTA
SOLENIOD DRIVE
Q208,Q209
BA1A4ZTA
SOLENIOD DRIVE
Q220
BN1L3NTA
MOTOR DRIVE
Q204
2SK301QTA
MOTOR SPEED CONT
Q203
2SD965RTA
MOTOR DRIVE
Q151,Q152
BA1L4ZTA
SWITCHING (PLAY;ON)
Q107
BA1L4ZTA
P.B EQ,REC EQ
(CRO2/METAL)
Q109
BA1L3ZTA
REC EQ
(HI SPEED)
Q115,Q116
2SD1020HTA
MUTING
Q110
BA1L3ZTA
REC EQ
(CRO2/METAL)
Q117
BA1L4MTA
REC EQ
Q205
BA1L4ZTA
MOTOR SPEED CONT
IC105
DMT
BP1
DOBLY
HI SP
TAPE
CLK
DATA
GND
BP2
1H
REC
2M
1M
2PL
1PL
VCC
REC
SW
TPS
ALC
R/P/SW
GND
C129 K820P
C131 K820P
R115 470K
C127 M0.01
R117 270K
C143 50V4.7
R125 1K
R127 820
R121 33K
R123 10K
C145 16V10
C146 16V10
C135 K1000P
R148 10K
C125 M0.047
R145 10K
R131 68K
C139 50V2.2
R129 8.2K
C150 10V47
R139 10K
D173 1SS254TA
C186 10V47
C126 M0.047
R130 8.2K
R220 4.7K
C120 50V4.7
C128 M0.01
R118 270K
R116 470K
C130 K820P
C132 K820P
R126 1K
R128 820
R132
C140 16V10
R134 470K
C141 50V0.1
C142 M0.022
R133 3.3K
R230 4.7K
R228 47K
R229 10K
R231 1K
C188 K100P
R234 4.7K
R216 2.2K
R215 2.2K
C187 K100P
R232 1K
C202 Z0.1
R182 4.7K
R181 4.7K
R106 2.2K
R213 1.5K
R185 100K
R208 15K
R206 120
VR201
R211 330K
R209 12K
R210 2.7K
R212 12K
C201 6V100
R221 2.7
R226 1K
R225 2.7
R227 1K
D202 1SS254TA
D201 1SS254TA
TP200
0V
3.9V
<<0.1V>>
<<3.8V>>
...HI SPEED
4.8V:CRO2
<<0.7V>>
4.7V
5V
4.8V
3.6V
<<4.9V>>
4.9V
<<0V>>
4.6V
<<0.5V>>
<<4.3V>>
4.5V
<<3.6V>>
<<9.4V>>...HI SPEED
11.8V
12.3V
...HI SPEED
13.4V
0.7V
14.1V
13.5V
W200
CP101
MOTOR
A
B
C
D
G
H
K
L
M
N
Z
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
④ ③ ② ①
TO M MECHANISM (DECK1) CIRCUIT
(CS951)
(PAGE 37)



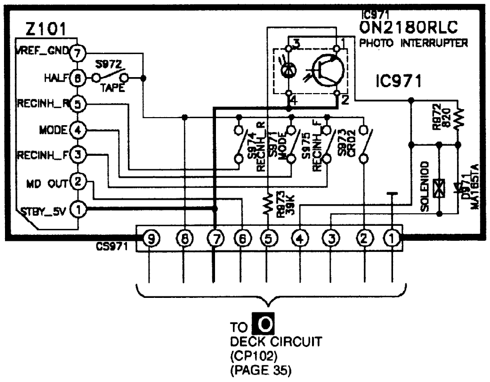
H100
MECA_A
MO_GND
MO_+B
DGND
+14V
RECR
RECL
AGND
PBR
PBL
TO R SUPPORTING CIRCUIT (CN100) (PAGE 40)
TP10
Z101
IC103 CXA1102M-T4 DOLBY B NR
CN201
VREF+
ADIN7
ADIN6
TPS
VREF-
MKCLK
MKDATA
+5V
TO L CONTROL CIRCUIT (W101) (PAGE 38)
H101
RECINR
RECINL
AGND
DOLBYL
DOLBYR
TO R SUPPORTING CIRCUIT (CN101) (PAGE 42)
Q153
Q154
Q153,Q154 2SC1740SLNET BUFFER AMP
IC103
R193 100K
R143 2.2K
R144 2.2K
R186 1K
R235 2.2K
R158 220
R151 1M
R152 1M
R153 1K
R154 1K
R155 680
R156 680
R159 2.2K
R160 2.2K
R137 10K
R138 10K
R236 4.7K
R235 4.7K
R194 100K
R149 2.7K
R150 2.7K
R163 4.3K
C151 50V1
C152 50V1
C153 K1000P
C154 K1000P
C155 16V10
C156 16V10
C205 K2200P
C206 K2200P
C181 16V100
C182 6V470
C183 50V1
C203 K330P
C204 K330P
C164 50V1
C165 16V10
C166 16V10
C167 50V0.68
C168 50V0.68
C169 50V4.7
C170 50V4.7
C171 16V10

M MECHANISM (DECK 1) CIRCUIT



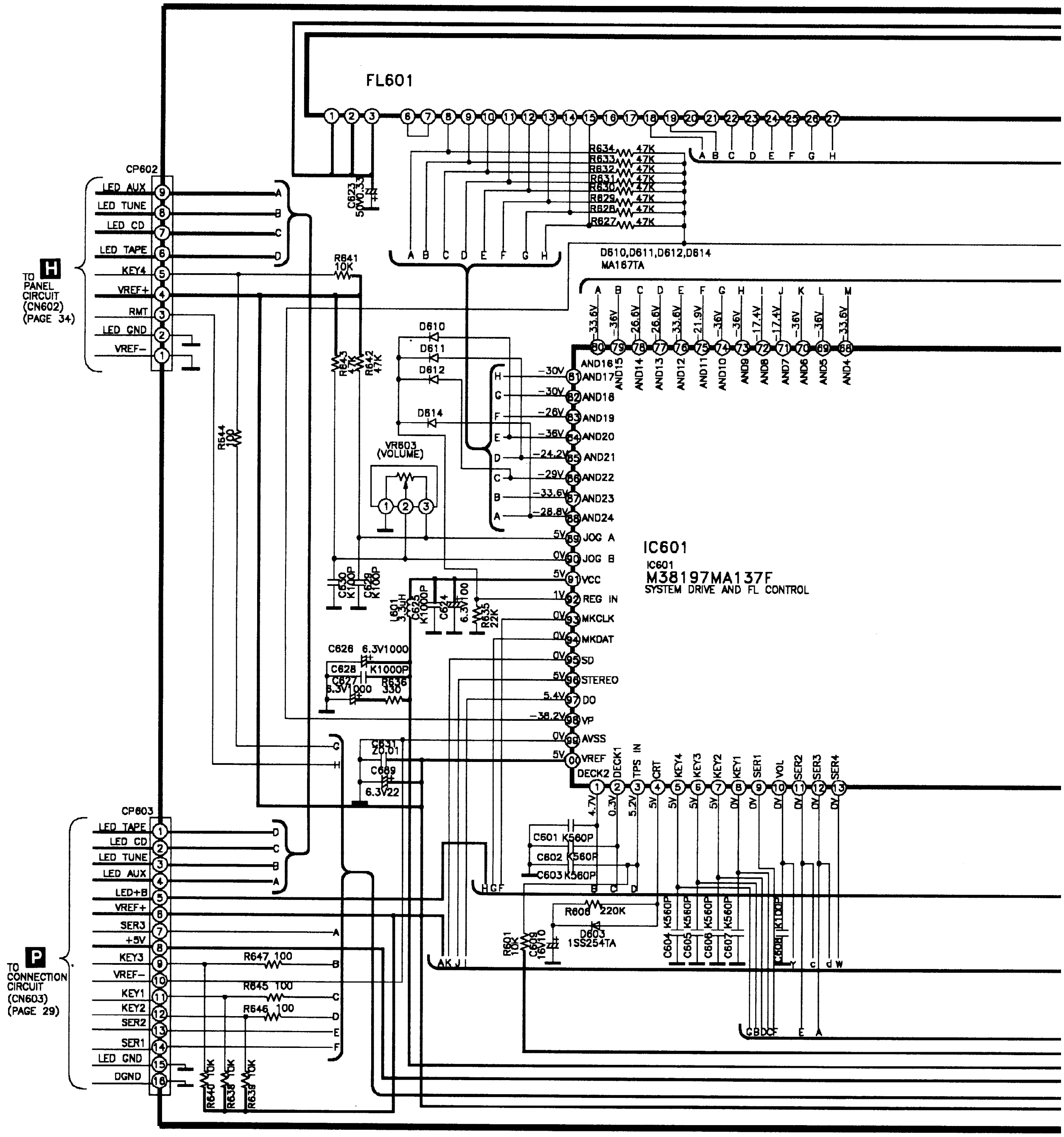
IC951 ON2180RLC PHOTO INTERRUPTER
IC951
R952 820
SOLENIOD
D951 MA165TA
S952 TAPE
R953 39K
S953 CR02
S951 MODE
CS951
TO O DECK CIRCUIT (CP101) (PAGE 36)

N MECHANISM (DECK 2) CIRCUIT



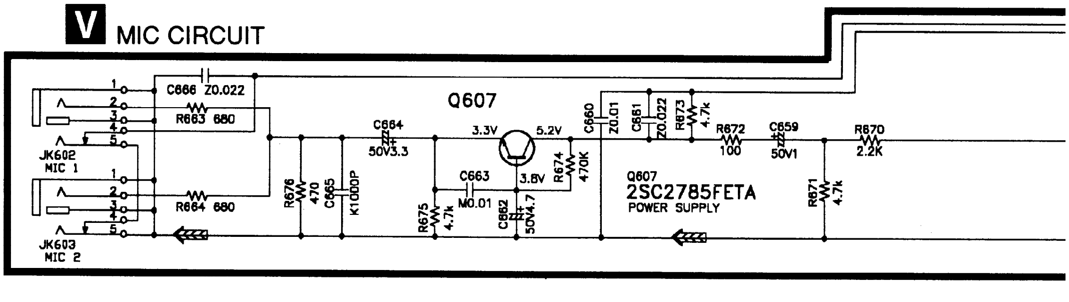
Z101
VREF_GND
HALF
RECINH_R
MODE
RECINH_F
MD OUT
STBY_5V
S972 TAPE
IC971 ON2180RLC PHOTO INTERRUPTER
IC971
S974 RECINH_R
S971 MODE
S975 RECINH_F
S973 CR02
R973 39K
R972 820
SOLENIOD
D971 MA165TA
CS971
TO O DECK CIRCUIT (CP102) (PAGE 35)

L CONTROL CIRCUIT

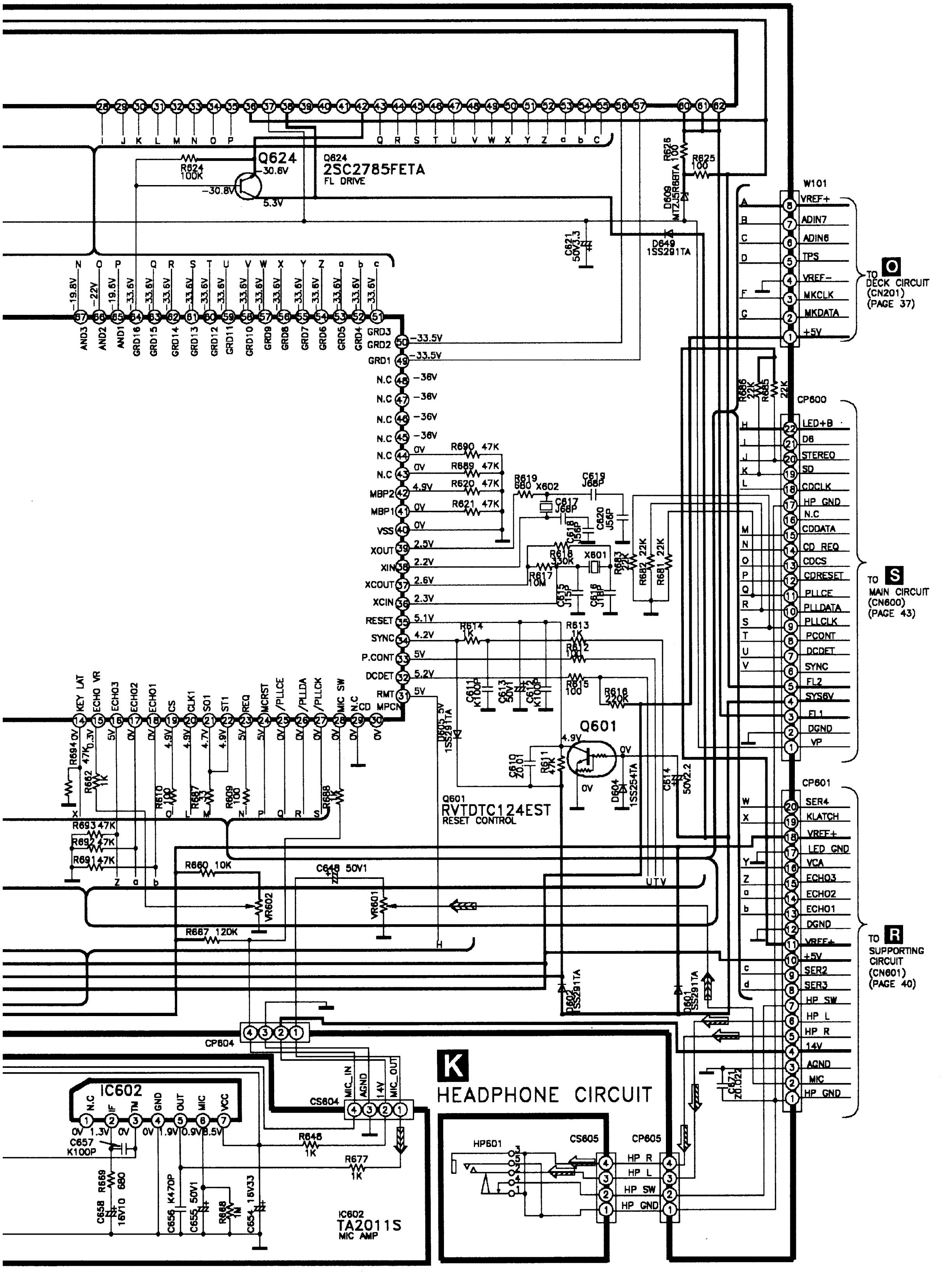


FL601
CP602
LED AUX
LED TUNE
LED CD
LED TAPE
KEY4
VREF+
RMT
LED GND
VREF−
TO H PANEL CIRCUIT (CN602) (PAGE 34)
C623 50V0.33
R641 10K
R634 47K
R633 47K
R632 47K
R631 47K
R630 47K
R629 47K
R628 47K
R627 47K
D610,D611,D612,D614 MA167TA
D610
D611
D612
D614
R643 47K
R642 47K
R644 100
VR603 (VOLUME)
C630 K100P
C629 K100P
L601 3.3uH
C625 K1000P
C624 6.3V100
R635 22K
C626 6.3V1000
C628 K1000P
C627 6.3V1000
R636 330
C631 Z0.01
C669 6.3V22
IC601
IC601 M38197MA137F SYSTEM DRIVE AND FL CONTROL
AND16
AND17
AND18
AND19
AND20
AND21
AND22
AND23
AND24
JOG A
JOG B
VCC
REG IN
MKCLK
MKDAT
SD
STEREO
DO
VP
AVSS
VREF
DECK2
DECK1
TPS IN
CRT
KEY4
KEY3
KEY2
KEY1
SER1
VOL
SER2
SER3
SER4
AND15
AND14
AND13
AND12
AND11
AND10
AND9
AND8
AND7
AND6
AND5
AND4
−33.6V
−36V
−26.6V
−26.6V
−33.6V
−21.9V
−36V
−36V
−17.4V
−17.4V
−36V
−36V
−33.6V
−30V
−30V
−26V
−36V
−24.2V
−29V
−33.6V
−28.8V
5V
0V
5V
1V
0V
0V
0V
5V
5.4V
−38.2V
0V
5V
4.7V
0.3V
5.2V
C601 K560P
C602 K560P
C603 K560P
R606 220K
D603 1SS254TA
R601 10K
C609 16V10
C604 K560P
C605 K560P
C606 K560P
C607 K560P
C608 K1000P
CP603
LED TAPE
LED CD
LED TUNE
LED AUX
LED+B
VREF+
SER3
+5V
KEY3
VREF−
KEY1
KEY2
SER2
SER1
LED GND
DGND
TO P CONNECTION CIRCUIT (CN603) (PAGE 29)
R647 100
R645 100
R646 100
R640 10K
R638 10K
R639 10K

V MIC CIRCUIT

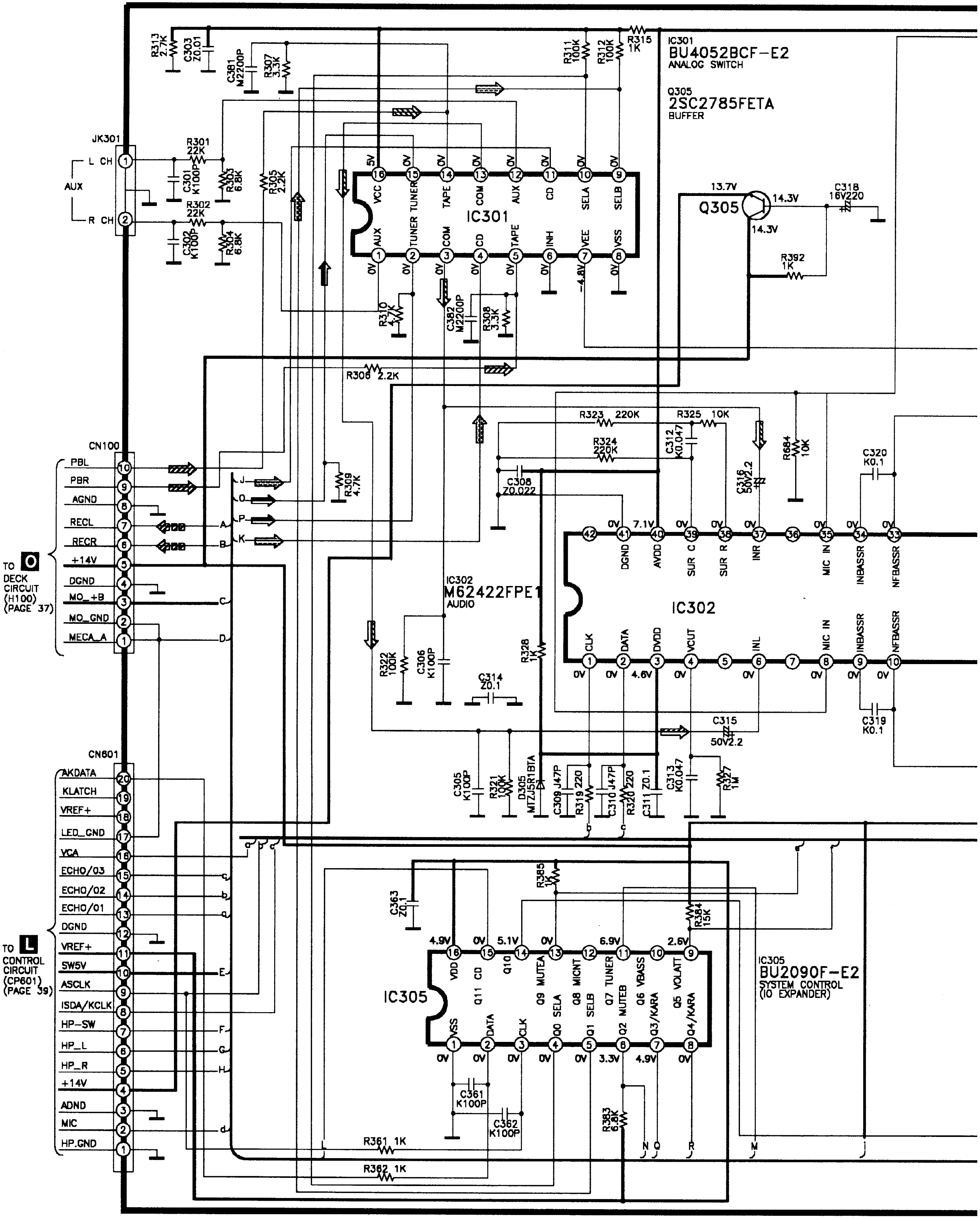


JK602 MIC 1
JK603 MIC 2
C666 Z0.022
R663 680
R664 680
C664 50V3.3
R676 470
C665 K1000P
R675 4.7k
Q607
3.3V
5.2V
3.8V
C663 M0.01
C662 50V4.7
R674 470K
C660 Z0.01
C661 Z0.022
R673 4.7k
R672 100
C659 50V1
R670 2.2K
R671 4.7k
Q607 2SC2785FETA POWER SUPPLY

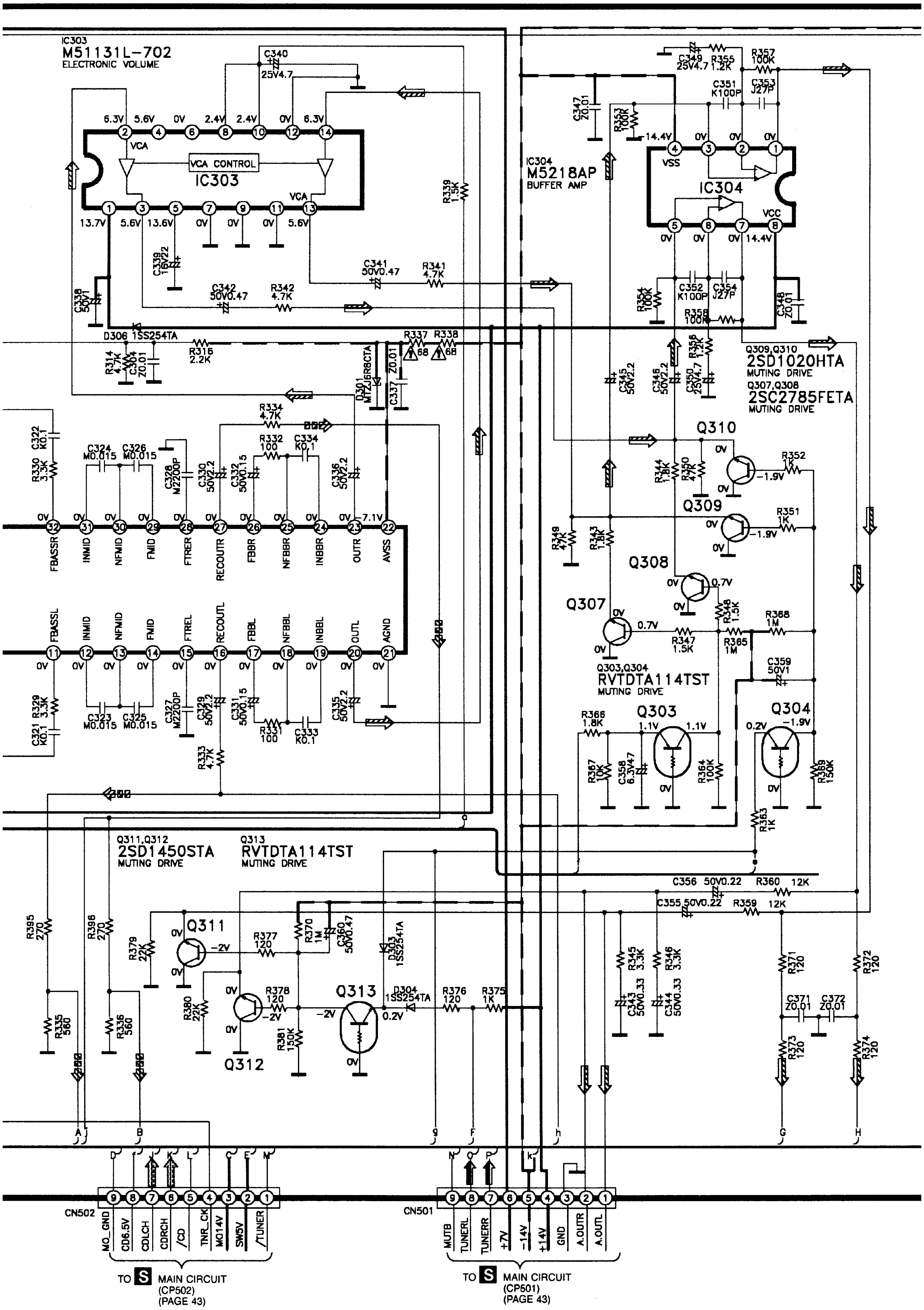


Q624
Q624
2SC2785FETA
FL DRIVE
R624
100K
-30.6V
-30.8V
5.3V
R626
100
R625
100
D609
MTZJ5R6BTA
D649
1SS291TA
C621
50V3.3
W101
VREF+
ADIN7
ADIN6
TPS
VREF-
MKCLK
MKDATA
+5V
TO O
DECK CIRCUIT
(CN201)
(PAGE 37)
AND3
AND2
AND1
GRD16
GRD15
GRD14
GRD13
GRD12
GRD11
GRD10
GRD9
GRD8
GRD7
GRD6
GRD5
GRD4
GRD3
GRD2
GRD1
-19.8V
-22V
-19.6V
-33.6V
-33.5V
-36V
N.C
MBP2
MBP1
VSS
XOUT
XIN
XCOUT
XCIN
RESET
SYNC
P.CONT
DCDET
RMT
MPCN
R690 47K
R689 47K
R620 47K
R621 47K
R619
680
X602
C619
J68P
C617
J68P
C618
J56P
C620
J56P
R616
330K
X601
R617
10M
C615
J15P
C616
J15P
R683
22K
R682
22K
R681
22K
R686
22K
R685
22K
R614
1K
R613
1K
R612
R615
100
R618
220K
C611
K100P
C613
50V1
C612
K100P
D605
1SS291TA
Q601
RVTDTC124EST
RESET CONTROL
C610
Z0.01
R611
47K
D604
1SS254TA
C614
50V2.2
KEY LAT
ECHO VR
ECHO3
ECHO2
ECHO1
CS
CLK1
SO1
ST1
REQ
MCRST
/PLLCE
/PLLDA
/PLLCK
MIC SW
N.C
CD
R694
R662
47K
1K
R610
100
R687
1K
R609
100
R688
R693 47K
R692 47K
R691 47K
R660 10K
C648 50V1
VR602
VR601
R667 120K
CP600
LED+B
D6
STEREO
SD
CDCLK
HP GND
N.C
CDDATA
CD REQ
CDCS
CDRESET
PLLCE
PLLDATA
PLLCLK
PCONT
DCDET
SYNC
FL2
SYS6V
FL1
DGND
VP
TO S
MAIN CIRCUIT
(CN600)
(PAGE 43)
CP601
SER4
KLATCH
VREF+
LED GND
VCA
ECHO3
ECHO2
ECHO1
DGND
VREF+
+5V
SER2
SER3
HP SW
HP L
HP R
14V
AGND
MIC
HP GND
TO R
SUPPORTING
CIRCUIT
(CN601)
(PAGE 40)
D602
1SS291TA
D601
1SS291TA
C671
Z0.022
CP604
CS604
MIC_IN
AGND
14V
MIC_OUT
IC602
N.C
IF
TM
GND
OUT
MIC
VCC
C657
K100P
R669
680
C658
16V10
C656
K470P
C655
50V1
R668
1M
C654
16V33
R648
1K
R677
1K
IC602
TA2011S
MIC AMP
K
HEADPHONE CIRCUIT
HP601
CS605
CP605
HP R
HP L
HP SW
HP GND

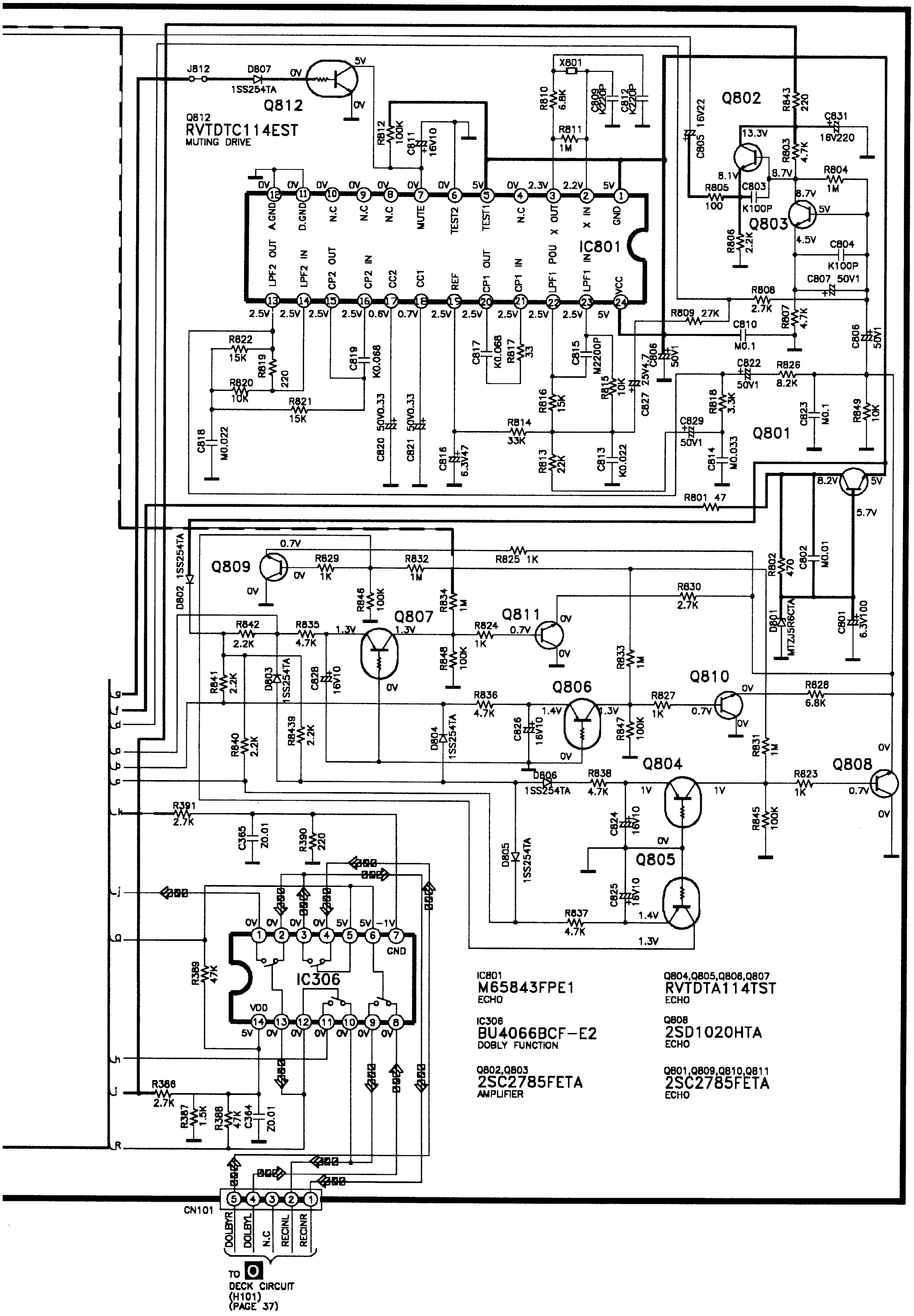
R SUPPORTING CIRCUIT



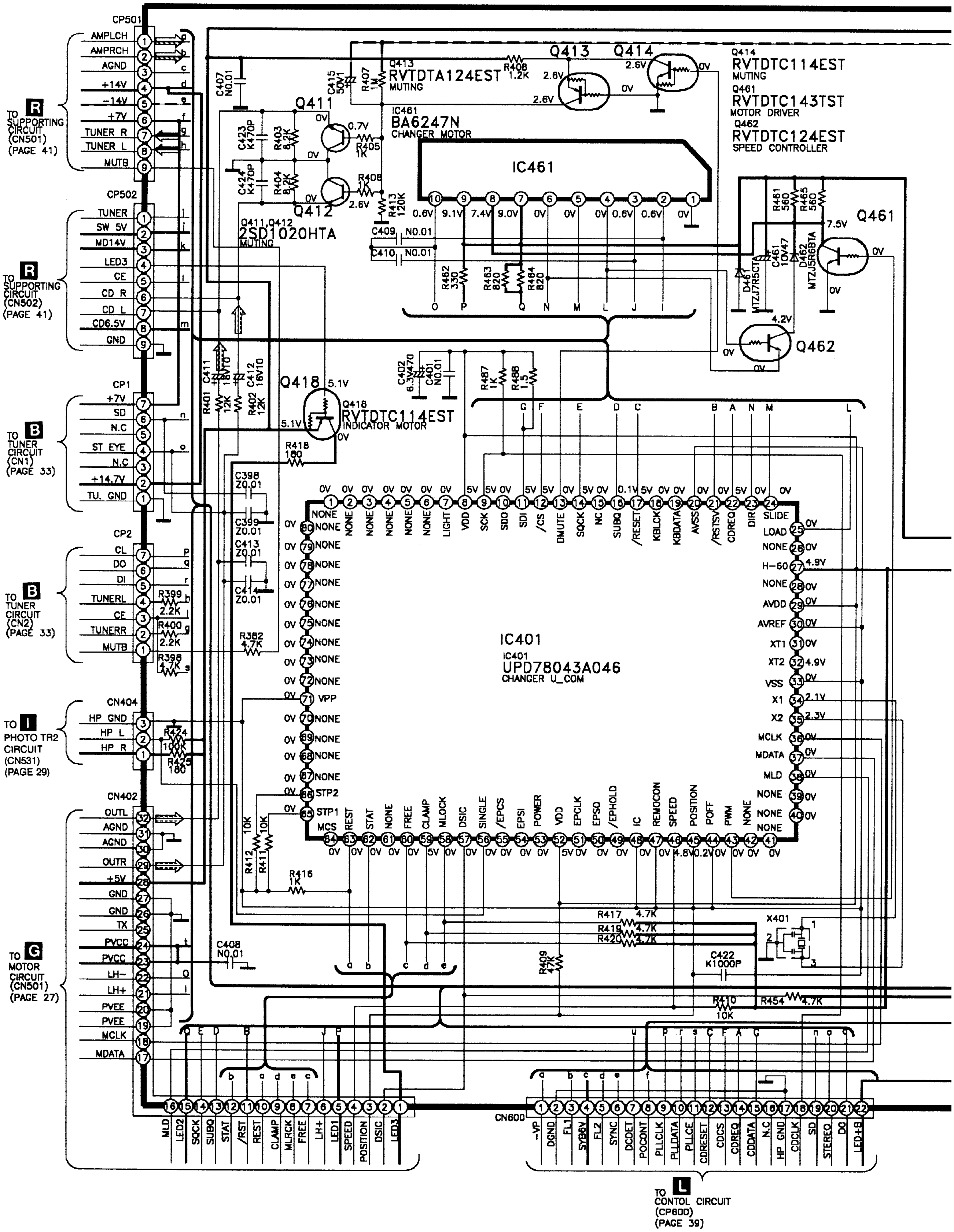
IC301
BU4052BCF-E2
ANALOG SWITCH
Q305
2SC2785FETA
BUFFER
IC302
M62422FPE1
AUDIO
IC305
BU2090F-E2
SYSTEM CONTROL
(IO EXPANDER)
JK301
AUX
L CH
R CH
CN100
PBL
PBR
AGND
RECL
RECR
+14V
DGND
MO_+B
MO_GND
MECA_A
TO O
DECK CIRCUIT
(H100)
(PAGE 37)
CN601
AKDATA
KLATCH
VREF+
LED_GND
VCA
ECHO/03
ECHO/02
ECHO/01
DGND
VREF+
SW5V
ASCLK
ISDA/KCLK
HP-SW
HP_L
HP_R
+14V
ADND
MIC
HP.GND
TO L
CONTROL CIRCUIT
(CP601)
(PAGE 39)
R313 2.7K
C303 Z0.01
C381 M2200P
R307 3.3K
R311 100K
R312 100K
R315 1K
R301 22K
R302 22K
C301 K100P
C302 K100P
R303 6.8K
R304 6.8K
R305 2.2K
R310 4.7K
C382 M2200P
R308 3.3K
R306 2.2K
R309 4.7K
R392 1K
C318 16V220
13.7V
14.3V
14.3V
R323 220K
R325 10K
R324 220K
C312 K0.047
C316 50V2.2
R684 10K
C320 K0.1
C308 Z0.022
R322 100K
C306 K100P
C314 Z0.1
R328 1K
C315 50V2.2
C319 K0.1
C305 K100P
R321 100K
D305 MTZJ5R1BTA
C309 J47P
R319 220
C310 J47P
R320 220
C311 Z0.1
C313 K0.047
R327 1M
R385 1K
C363 Z0.1
R384 15K
C361 K100P
C362 K100P
R383 6.8K
R361 1K
R362 1K
5V VCC 16
0V TUNER 15
0V TAPE 14
0V COM 13
0V AUX 12
0V CD 11
0V SELA 10
0V SELB 9
AUX 1 0V
TUNER 2 0V
COM 3
CD 4
TAPE 5 0V
INH 6 0V
VEE 7 -4.8V
VSS 8 0V
42
0V DGND 41
7.1V AVDD 40
0V SUR C 39
0V SUR R 38
0V INR 37
36
0V MIC IN 35
0V INBASSR 34
0V NFBASSR 33
CLK 1 0V
DATA 2 0V
DVDD 3 4.6V
VCUT 4 0V
5
INL 6 0V
7
MIC IN 8 0V
INBASSR 9 0V
NFBASSR 10 0V
4.9V VDD 16
0V CD 15
5.1V Q10 14
0V Q9 MUTEA 13
Q8 MICNT 12
6.9V Q7 TUNER 11
Q6 VBASS 10
2.6V Q5 VOLATT 9
VSS 1 0V
DATA 2 0V
CLK 3 0V
Q0 SELA 4 0V
Q1 SELB 5 0V
Q2 MUTEB 6 3.3V
Q3/KARA 7 4.9V
Q4/KARA 8 0V
J
O
P
K
A
B
C
D
E
F
G
H
L
N
Q
R
M
a
b
c
d



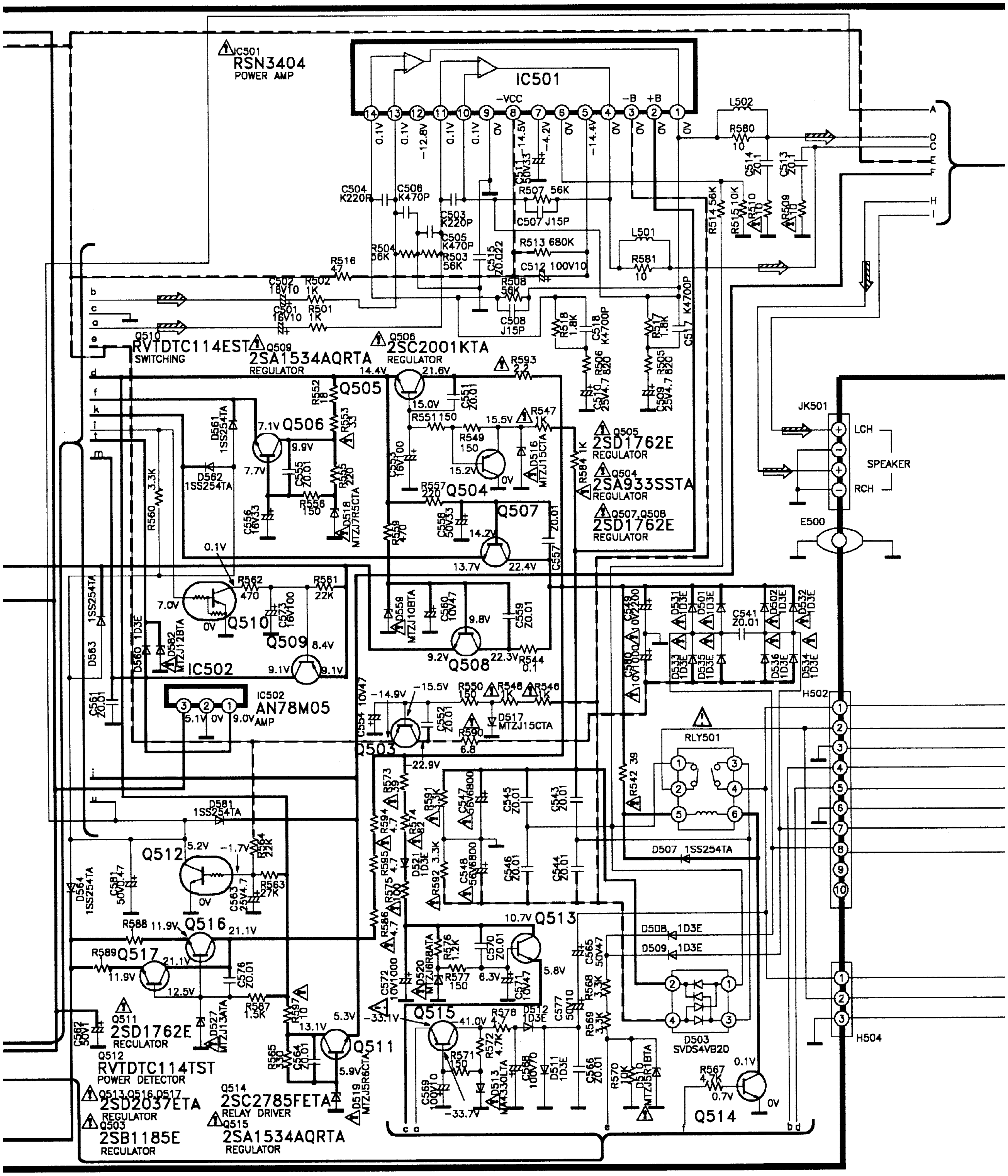
IC303
M51131L-702
ELECTRONIC VOLUME
VCA
VCA CONTROL
IC303
IC304
M5218AP
BUFFER AMP
IC304
VSS
VCC
Q309,Q310
2SD1020HTA
MUTING DRIVE
Q307,Q308
2SC2785FETA
MUTING DRIVE
Q303,Q304
RVTDTA114TST
MUTING DRIVE
Q311,Q312
2SD1450STA
MUTING DRIVE
Q313
RVTDTA114TST
MUTING DRIVE
Q303
Q304
Q307
Q308
Q309
Q310
Q311
Q312
Q313
D306 1SS254TA
D301 MTZJ6R8CTA
D303 1SS254TA
D304 1SS254TA
C340 25V4.7
C349 25V4.7
R355 1.2K
R357 100K
C351 K100P
C353 J27P
C347 Z0.01
R353 100K
C352 K100P
C354 J27P
R354 100K
R358 100K
C348 Z0.01
R356 12K
C345 50V2.2
C346 50V2.2
C350 25V4.7
R339 1.5K
C339 16V22
C338 50V1
C341 50V0.47
R341 4.7K
C342 50V0.47
R342 4.7K
R314 4.7K
C304 Z0.01
R316 2.2K
R337 68
R338 68
C337 Z0.01
R334 4.7K
R332 100
C334 K0.1
C322 K0.1
R330 3.3K
C324 M0.015
C326 M0.015
C328 M2200P
C330 50V2.2
C332 50V0.15
C336 50V2.2
C321 K0.1
R329 3.3K
C323 M0.015
C325 M0.015
C327 M2200P
C329 50V2.2
C331 50V0.15
R331 100
C333 K0.1
C335 50V2.2
R333 4.7K
R352 1K
R351 1K
R344 1.8K
R350 47K
R349 47K
R343 1.8K
R348 1.5K
R347 1.5K
R368 1M
R365 1M
C359 50V1
R366 1.8K
R367 10K
C358 6.3V47
R364 100K
R369 150K
R363 1K
C356 50V0.22
R360 12K
C355 50V0.22
R359 12K
R395 270
R396 270
R379 22K
R377 120
R370 1M
C360 50V0.47
R380 22K
R378 120
R381 150K
R376 120
R375 1K
R335 560
R336 560
R345 3.3K
R346 3.3K
C343 50V0.33
C344 50V0.33
R371 120
R372 120
C371 Z0.01
C372 Z0.01
R373 120
R374 120
FBASSR
INMIDR
NFMIDR
FMIDR
FTRER
RECOUTR
FBBR
NFBBR
INBBR
OUTR
AVSS
FBASSL
INMIDL
NFMIDL
FMIDL
FTREL
RECOUTL
FBBL
NFBBL
INBBL
OUTL
AGND
6.3V
5.6V
0V
2.4V
13.7V
13.6V
14.4V
-14.4V
-7.1V
-1.9V
0.7V
1.1V
0.2V
-2V
A
B
C
D
E
F
G
H
J
K
L
M
N
O
P
g
h
k
CN502
MO_GND
CD6.5V
CDLCH
CDRCH
/CD
TNR_CK
MO14V
SW5V
/TUNER
TO S MAIN CIRCUIT
(CP502)
(PAGE 43)
CN501
MUTB
TUNERL
TUNERR
+7V
-14V
+14V
GND
A.OUTR
A.OUTL
TO S MAIN CIRCUIT
(CP501)
(PAGE 43)


J812
D807
1SS254TA
0V
5V
Q812
0V
Q812
RVTDTC114EST
MUTING DRIVE
R812 100K
C811 16V10
X801
R810 6.8K
C809 K220P
C812 K220P
R811 1M
C805 16V22
Q802
R843 220
C831 16V220
13.3V
R803 4.7K
8.1V
8.7V
R804 1M
R805 100
C803 K100P
8.7V
5V
Q803
R806 2.2K
4.5V
C804 K100P
C807 50V1
R808 2.7K
R809 27K
C810 M0.1
R807 4.7K
C806 50V1
IC801
0V 0V 0V 0V 0V 0V 0V 5V 0V 2.3V 2.2V 5V
A.GND
D.GND
N.C
N.C
N.C
MUTE
TEST2
TEST1
N.C
X OUT
X IN
GND
LPF2 OUT
LPF2 IN
CP2 OUT
CP2 IN
CC2
CC1
REF
CP1 OUT
CP1 IN
LPF1 POU
LPF1 IN
VCC
2.5V 2.5V 2.5V 2.5V 0.6V 0.7V 2.5V 2.5V 2.5V 2.5V 2.5V 5V
R822 15K
R819 220
R820 10K
C819 K0.068
R821 15K
C818 M0.022
C820 50V0.33
C821 50V0.33
C816 6.3V47
C817 K0.068
R817 33
R814 33K
C815 M2200P
R815 10K
R816 15K
R813 22K
C813 K0.022
C827 25V4.7
C822 50V1
R826 8.2K
R818 3.3K
C829 50V1
C814 M0.033
C823 M0.1
R849 10K
Q801
R801 47
8.2V
5V
5.7V
D802 1SS254TA
0.7V
Q809
R829 1K
R832 1M
R825 1K
0V
0V
R846 100K
R834 1M
Q807
R830 2.7K
R802 470
C802 M0.01
Q811
0V
R842 2.2K
R835 4.7K
1.3V
1.3V
R824 1K
0.7V
0V
D801 MTZJ5R6CTA
C801 6.3V100
R841 2.2K
D803 1SS254TA
C828 16V10
0V
R848 100K
R833 1M
Q810
0V
R836 4.7K
Q806
1.4V
1.3V
R827 1K
0.7V
R828 6.8K
R840 2.2K
R8439 2.2K
D804 1SS254TA
C826 16V10
0V
R847 100K
0V
R831 1M
D806 1SS254TA
R838 4.7K
Q804
1V
1V
R823 1K
Q808
0V
0.7V
0V
R391 2.7K
C365 Z0.01
R390 220
C824 16V10
0V
R845 100K
Q805
D805 1SS254TA
C825 16V10
1.4V
R837 4.7K
1.3V
g
f
d
a
b
c
k
j
Q
h
i
R
0V 0V 0V 0V 5V 5V -1V
GND
IC306
VDD
5V 0V 0V 0V 0V 0V 0V
R389 47K
R386 2.7K
R387 1.5K
R388 47K
C364 Z0.01
IC801
M65843FPE1
ECHO
IC306
BU4066BCF-E2
DOBLY FUNCTION
Q802,Q803
2SC2785FETA
AMPLIFIER
Q804,Q805,Q806,Q807
RVTDTA114TST
ECHO
Q808
2SD1020HTA
ECHO
Q801,Q809,Q810,Q811
2SC2785FETA
ECHO
CN101
DOLBYR
DOLBYL
N.C
RECINL
RECINR
TO O
DECK CIRCUIT
(H101)
(PAGE 37)

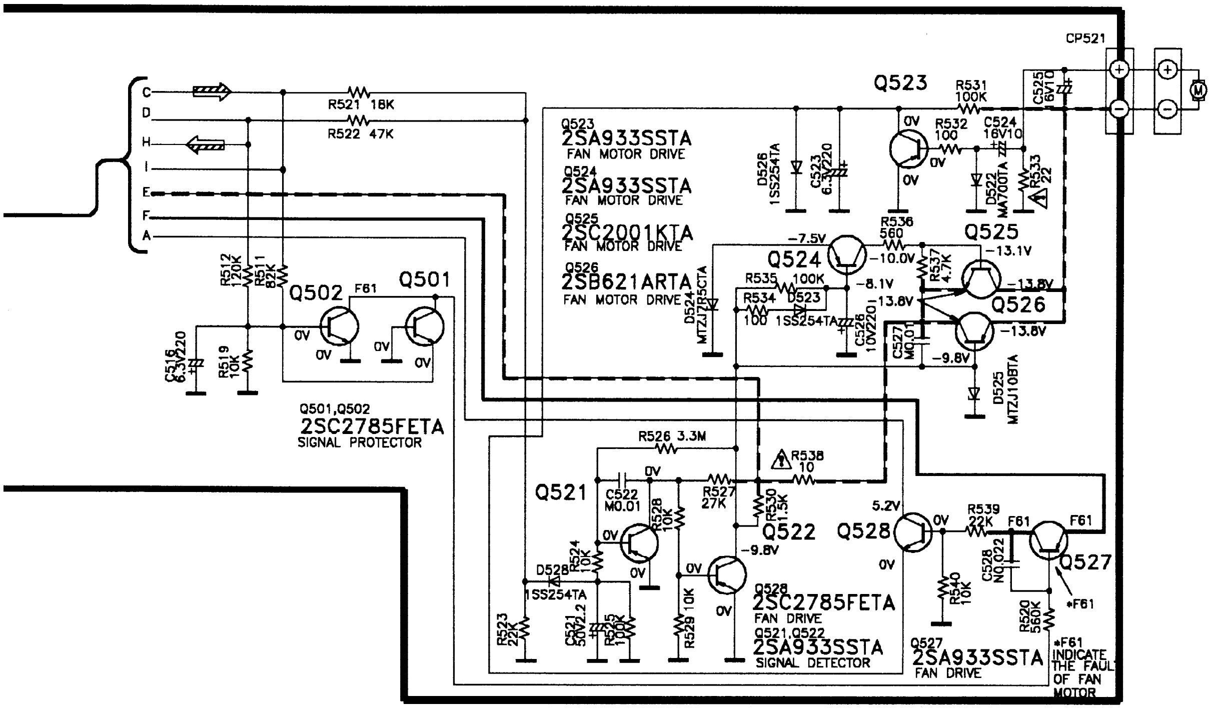
S MAIN CIRCUIT



CP501
AMPLCH
AMPRCH
AGND
+14V
-14V
+7V
TUNER R
TUNER L
MUTB
TO R SUPPORTING CIRCUIT (CN501) (PAGE 41)
CP502
TUNER
SW 5V
MD14V
LED3
CE
CD R
CD L
CD6.5V
GND
TO R SUPPORTING CIRCUIT (CN502) (PAGE 41)
CP1
+7V
SD
N.C
ST EYE
N.C
+14.7V
TU. GND
TO B TUNER CIRCUIT (CN1) (PAGE 33)
CP2
CL
DO
DI
TUNERL
CE
TUNERR
MUTB
TO B TUNER CIRCUIT (CN2) (PAGE 33)
R399 2.2K
R400 2.2K
R398 4.7K
CN404
HP GND
HP L
HP R
TO I PHOTO TR2 CIRCUIT (CN531) (PAGE 29)
R424 100K
R425 180
CN402
OUTL
AGND
AGND
OUTR
+5V
GND
GND
TX
PVCC
PVCC
LH-
LH+
PVEE
PVEE
MCLK
MDATA
TO G MOTOR CIRCUIT (CN501) (PAGE 27)
C407 N0.01
C415 50V1
R407 1M
Q413 RVTDTA124EST MUTING
R408 1.2K
Q413
Q414
Q414 RVTDTC114EST MUTING
Q461 RVTDTC143TST MOTOR DRIVER
Q462 RVTDTC124EST SPEED CONTROLLER
Q411
C423 K470P
R403 8.2K
R405 1K
C424 K470P
R404 8.2K
R406 1K
R413 120K
Q412
Q411,Q412 2SD1020HTA MUTING
IC461 BA6247N CHANGER MOTOR
IC461
C409 N0.01
C410 N0.01
R462 330
R463 820
R464 820
R461 560
R465 560
Q461
C461 10V47
D461 MTZJ7R5CTA
D462 MTZJ5R6BTA
Q462
C411 16V10
C412 16V10
R401 12K
R402 12K
Q418
Q418 RVTDTC114EST INDICATOR MOTOR
R418 180
C402 6.3V470
C401 N0.01
R487 1K
R488 1.5
C398 Z0.01
C399 Z0.01
C413 Z0.01
C414 Z0.01
R382 4.7K
IC401
IC401 UPD78043A046 CHANGER U_COM
NONE
LIGHT
VDD
SCK
SDO
SDI
/CS
DMUTE
SQCK
NC
SUBQ
/RESET
KBLCK
KBDATA
AVSS
/RSTSV
CDREQ
DIR
SLIDE
LOAD
H-60
AVDD
AVREF
XT1
XT2
VSS
X1
X2
MCLK
MDATA
MLD
VPP
STP2
STP1
MCS
REST
STAT
FREE
CLAMP
MLOCK
DSIC
SINGLE
/EPCS
EPSI
POWER
EPCLK
EPSO
/EPHOLD
IC
REMOCON
SPEED
POSITION
POFF
PWM
R412 10K
R411 10K
R416 1K
R417 4.7K
R419 4.7K
R420 4.7K
X401
C422 K1000P
R409 47K
R410 10K
R454 4.7K
C408 N0.01
MLD
LED2
SQCK
SUBQ
STAT
/RST
REST
CLAMP
MLRCK
FREE
LH+
LED1
SPEED
POSITION
DSIC
LED3
CN600
-VP
DGND
FL1
SYB6V
FL2
SYNC
DCDET
POCONT
PLLCLK
PLLDATA
PLLCE
CDRESET
CDCS
CDREQ
CDDATA
N.C
HP GND
CDCLK
SD
STEREO
DO
LED+B
TO L CONTOL CIRCUIT (CP600) (PAGE 39)

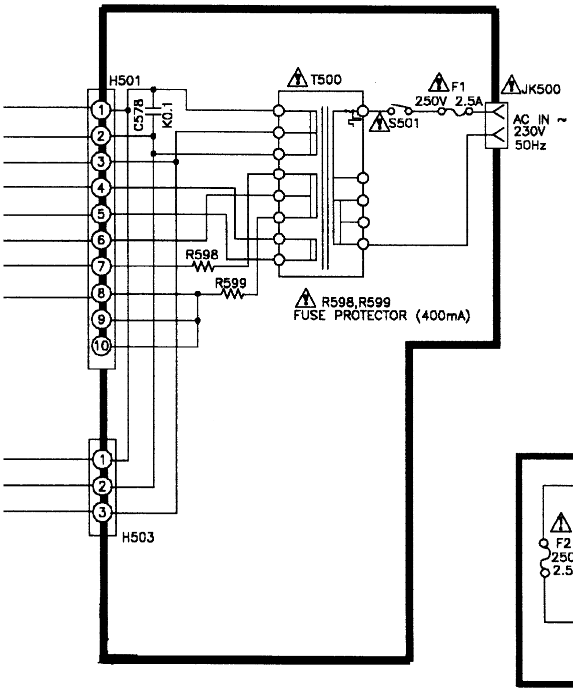


IC501
RSN3404
POWER AMP
IC501
-VCC
-B
+B
0.1V
0.1V
-12.8V
0.1V
0.1V
0V
-14.5V
-4.2V
0V
-14.4V
0V
0V
0V
0V
L502
R580 10
C514 Z0.1
C513 Z0.1
R510 10
R509 10
R514 56K
R515 10K
C504 K220P
C506 K470P
C503 K220P
C505 K470P
R504 56K
R503 56K
C515 Z0.022
C511 50V33
R507 56K
C507 J15P
R513 680K
C512 100V10
L501
R581 10
R516 47
C502 16V10
R502 1K
C501 16V10
R501 1K
R508 56K
C508 J15P
R518 1.8K
C518 K4700P
R517 1.8K
C517 K4700P
R506 820
C510 25V4.7
R505 820
C509 25V4.7
A
D
C
E
F
H
I
b
c
a
e
d
f
k
l
t
m
j
u
Q510 RVTDTC114EST SWITCHING
Q509 2SA1534AQRTA REGULATOR
Q506 2SC2001KTA REGULATOR
R593 2.2
14.4V
21.6V
15.0V
C551 Z0.01
R552 18
Q505
R553 33
D561 1SS254TA
7.1V
Q506
9.9V
R551 150
15.5V
R547 1K
R549 150
D516 MTZJ15CTA
15.2V
0V
R584 1K
Q505 2SD1762E REGULATOR
Q504 2SA933SSTA REGULATOR
Q507,Q508 2SD1762E REGULATOR
D562 1SS254TA
7.7V
C555 Z0.01
R555 220
C553 16V100
R557 220
Q504
Q507
R556 150
D518 MTZJ7R5CTA
C556 16V33
R560 3.3K
R559 470
C558 50V33
14.2V
C557 Z0.01
13.7V
22.4V
0.1V
R562 470
R561 22K
7.0V
0V
Q510
C573 16V100
Q509
8.4V
9.1V
9.1V
D558 MTZJ10BTA
C560 10V47
9.8V
C559 Z0.01
9.2V
22.3V
R544 0.1
Q508
1SS254TA
D563
D560 1D3E
D582 MTZJ12BTA
IC502
C561 Z0.01
IC502 AN78M05 AMP
5.1V
0V
9.0V
C554 10V47
-14.9V
-15.5V
C552 Z0.01
R550 150
R548 1K
R546 1K
D517 MTZJ15CTA
R590 6.8
Q503
-22.9V
C549 10V2200
C580 10V1000
D531 1D3E
D501 1D3E
C541 Z0.01
D502 1D3E
D532 1D3E
D533 1D3E
D535 1D3E
D536 1D3E
D534 1D3E
JK501
LCH
RCH
SPEAKER
E500
H502
RLY501
R542 39
D507 1SS254TA
D581 1SS254TA
Q512
5.2V
-1.7V
R564 22K
R563 27K
C563 25V4.7
0V
D564 1SS254TA
C581 50V0.47
R573 39
R594 4.7
R574 82
R591 1K
C547 56V6800
C545 Z0.01
C543 Z0.01
R595 4.7
D521 1D3E
R592 3.3K
C548 56V6800
C546 Z0.01
C544 Z0.01
R575 100
R586 4.7
R588
11.9V
Q516
21.1V
R589
Q517
21.1V
11.9V
12.5V
C576 Z0.01
10.7V
Q513
D520 MTZJ6R8ATA
R576 1.2K
C570 Z0.01
R577 150
6.3V
C571 10V47
5.8V
C565 50V47
R568 3.3K
D508 1D3E
D509 1D3E
D503 SVDS4VB20
C572 10V1000
Q511 2SD1762E REGULATOR
C562 50V1
D527 MTZJ13ATA
R587 1.5K
R597 10
5.3V
13.1V
-33.1V
Q515
41.0V
R578 4.7
D512 1D3E
C577 50V10
R569 3.3K
R565 330
C564 Z0.01
Q511
5.9V
D519 MTZJ5R6CTA
R571 150
R572 4.7K
C569 100V10
D513 MA4330LTA
C568 100V10
D511 1D3E
C566 Z0.01
R570 10K
D510 MTZJ5R1BTA
R567 4.7K
0.1V
0.7V
0V
Q514
-33.7V
H504
Q512 RVTDTC114TST POWER DETECTOR
Q513,Q516,Q517 2SD2037ETA REGULATOR
Q503 2SB1185E REGULATOR
Q514 2SC2785FETA RELAY DRIVER
Q515 2SA1534AQRTA REGULATOR



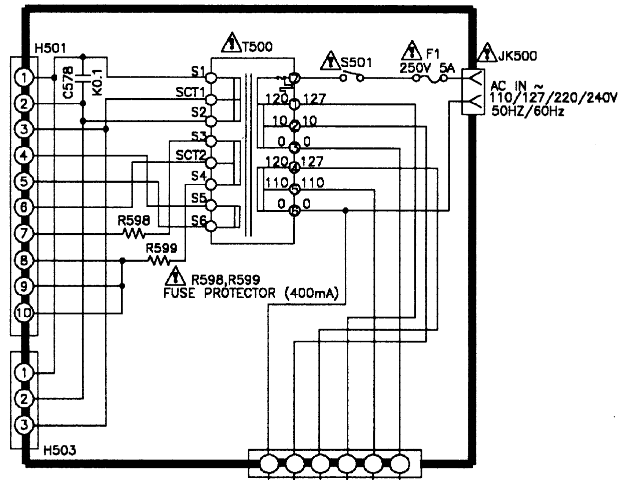
CP521
Q523
R531 100K
C525 6V10
R532 100
C524 16V10
D522 MA700TA
R533 22
D526 1SS254TA
C523 6.3V220
R536 560
Q525
-13.1V
Q524
-7.5V
-10.0V
R537 4.7K
R535 100K
-8.1V
R534 100
D523 1SS254TA
-13.8V
Q526
C526 10V220
C527 M0.01
-9.8V
D525 MTZJ10BTA
D524 MTZJ7.5CTA
Q523 2SA933SSTA FAN MOTOR DRIVE
Q524 2SA933SSTA FAN MOTOR DRIVE
Q525 2SC2001KTA FAN MOTOR DRIVE
Q526 2SB621ARTA FAN MOTOR DRIVE
C
D
H
I
E
F
A
R521 18K
R522 47K
R512 120K
R511 82K
Q502
F61
Q501
0V
C516 6.3V220
R519 10K
Q501,Q502 2SC2785FETA SIGNAL PROTECTOR
R526 3.3M
R538 10
Q521
C522 M0.01
R528 10K
R527 27K
R530 1.5K
Q522
5.2V
Q528
R539 22K
F61
Q527
R524 10K
D528 1SS254TA
R523 22K
C521 50V2.2
R525 100K
R529 10K
-9.8V
R540 10K
C528 N0.022
R520 560K
*F61
Q528 2SC2785FETA FAN DRIVE
Q521,Q522 2SA933SSTA SIGNAL DETECTOR
Q527 2SA933SSTA FAN DRIVE
*F61 INDICATE THE FAULT OF FAN MOTOR

J POWER CIRCUIT FOR GCS AREA

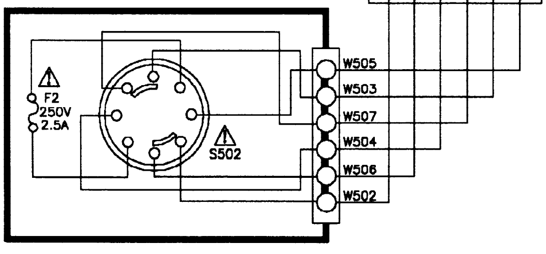


H501
C578 K0.1
T500
F1 250V 2.5A
JK500
AC IN ~ 230V 50Hz
S501
R598
R599
R598,R599 FUSE PROTECTOR (400mA)
H503
1
2
3
4
5
6
7
8
9
10

I POWER CIRCUIT FOR GC,GT AREAS



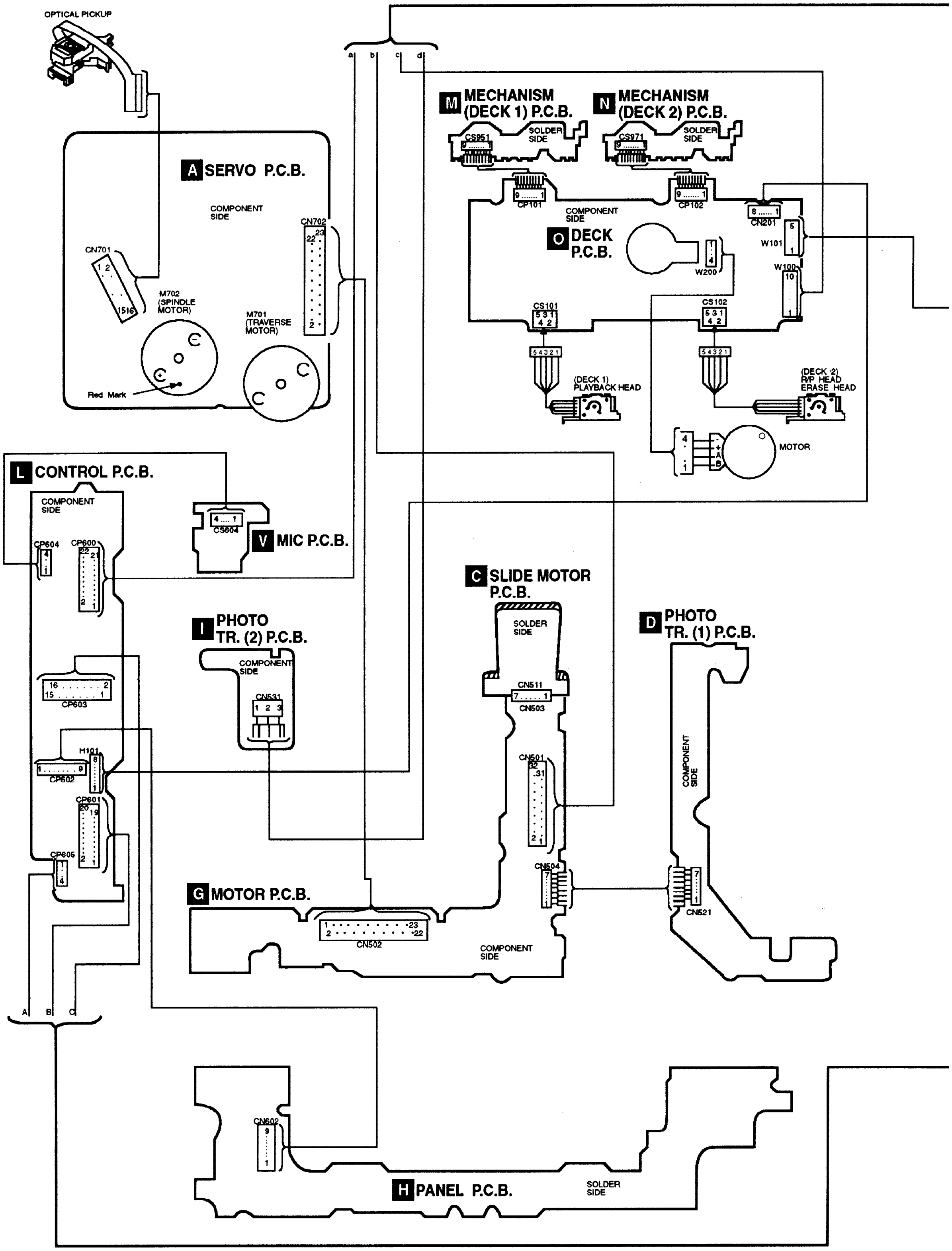
H501
C578 K0.1
T500
S501
F1 250V 5A
JK500
AC IN ~ 110/127/220/240V 50HZ/60Hz
S1
SCT1
S2
S3
SCT2
S4
S5
S6
120
127
10
0
110
R598
R599
R598,R599 FUSE PROTECTOR (400mA)
H503

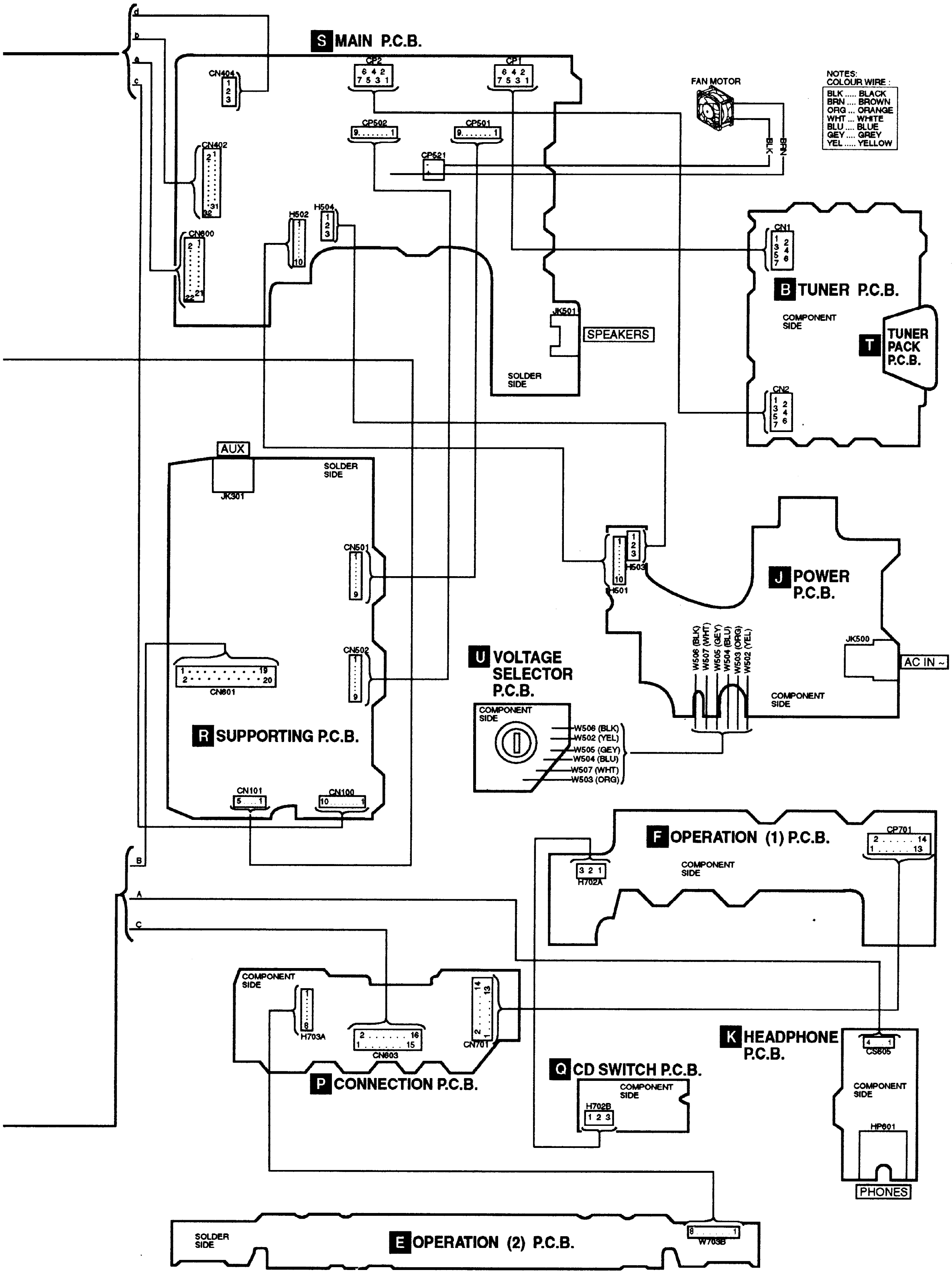


F2 250V 2.5A
S502
W505
W503
W507
W504
W506
W502

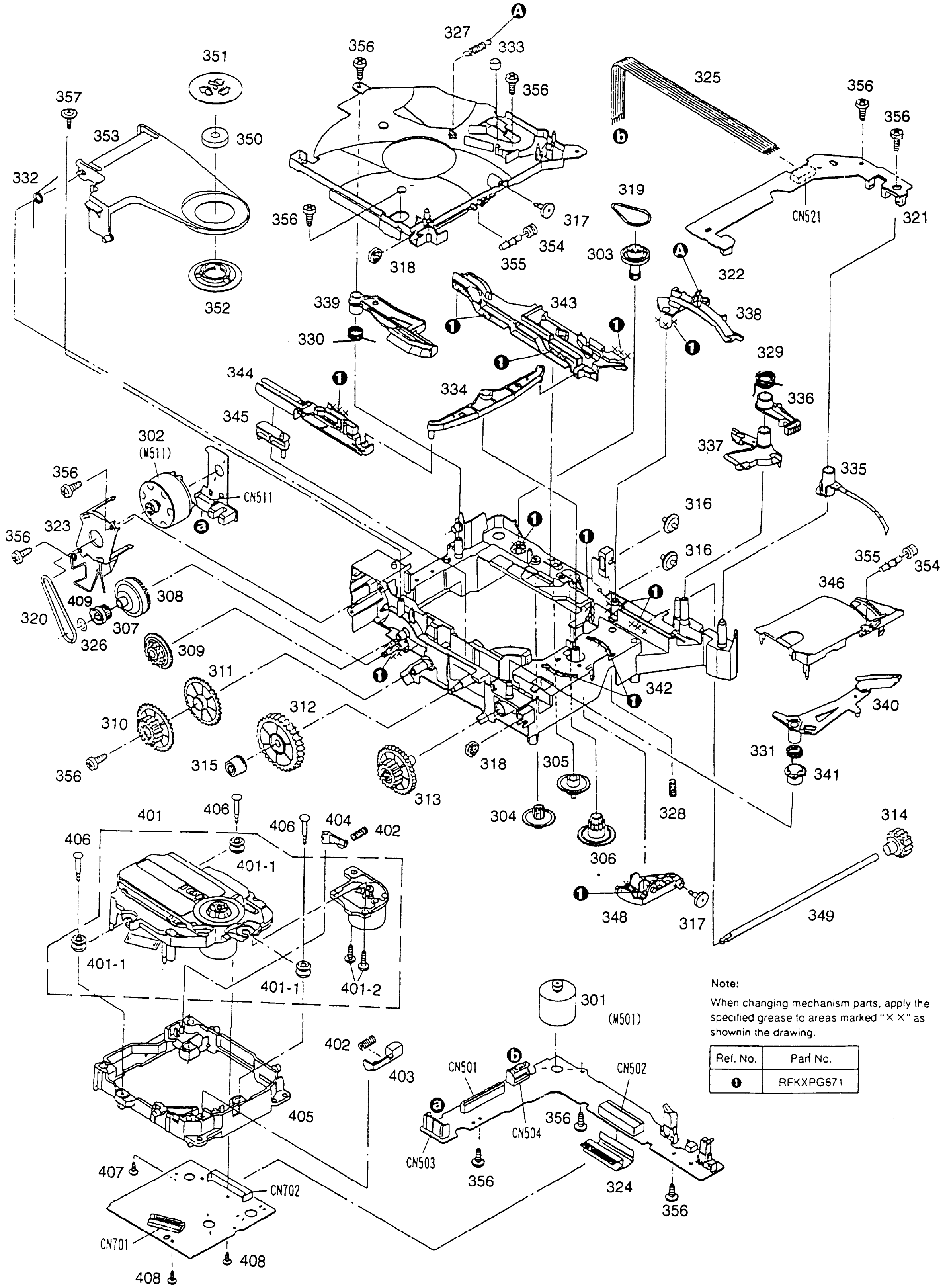
U VOLTAGE SELECTOR CIRCUIT

■ Wiring Connection Diagram


OPTICAL PICKUP
a
b
c
d
A SERVO P.C.B.
COMPONENT SIDE
CN701
1 2
15 16
M702 (SPINDLE MOTOR)
M701 (TRAVERSE MOTOR)
Red Mark
CN702
22 23
2 1
M MECHANISM (DECK 1) P.C.B.
CS951
SOLDER SIDE
N MECHANISM (DECK 2) P.C.B.
CS971
SOLDER SIDE
CP101
9 1
CP102
9 1
COMPONENT SIDE
O DECK P.C.B.
CN201
8 1
W101
5
1
W200
1
4
W100
10
1
CS101
5 3 1
4 2
CS102
5 3 1
4 2
5 4 3 2 1
5 4 3 2 1
(DECK 1) PLAYBACK HEAD
(DECK 2) R/P HEAD ERASE HEAD
4
1
+
A
B
MOTOR
L CONTROL P.C.B.
COMPONENT SIDE
CP604
4
1
CP600
22 21
2 1
CS604
4 1
V MIC P.C.B.
16 2
15 1
CP603
H101
1 9
CP602
8
CP601
20 19
2 1
CP605
1
4
I PHOTO TR. (2) P.C.B.
COMPONENT SIDE
CN531
1 2 3
C SLIDE MOTOR P.C.B.
SOLDER SIDE
CN511
7 1
CN503
CN501
32
31
2 1
CN504
7
1
D PHOTO TR. (1) P.C.B.
COMPONENT SIDE
7
1
CN521
G MOTOR P.C.B.
1 23
2 22
CN502
COMPONENT SIDE
A
B
C
CN602
9
1
H PANEL P.C.B.
SOLDER SIDE


S MAIN P.C.B.
CN404
CP2
CP1
CP502
CP501
CP521
CN402
CN600
H502
H504
JK501
SPEAKERS
SOLDER SIDE
FAN MOTOR
BLK
BRN
NOTES:
COLOUR WIRE :
BLK ..... BLACK
BRN .... BROWN
ORG ... ORANGE
WHT ... WHITE
BLU .... BLUE
GEY .... GREY
YEL ..... YELLOW
CN1
B TUNER P.C.B.
COMPONENT SIDE
T TUNER PACK P.C.B.
CN2
AUX
JK301
SOLDER SIDE
CN501
CN502
CN601
R SUPPORTING P.C.B.
CN101
CN100
H503
H501
J POWER P.C.B.
W506 (BLK)
W507 (WHT)
W505 (GEY)
W504 (BLU)
W503 (ORG)
W502 (YEL)
JK500
AC IN ~
COMPONENT SIDE
U VOLTAGE SELECTOR P.C.B.
COMPONENT SIDE
W506 (BLK)
W502 (YEL)
W505 (GEY)
W504 (BLU)
W507 (WHT)
W503 (ORG)
F OPERATION (1) P.C.B.
H702A
COMPONENT SIDE
CP701
COMPONENT SIDE
H703A
CN603
CN701
P CONNECTION P.C.B.
Q CD SWITCH P.C.B.
COMPONENT SIDE
H702B
K HEADPHONE P.C.B.
CS605
COMPONENT SIDE
HP601
PHONES
SOLDER SIDE
E OPERATION (2) P.C.B.
W703B
a
b
c
d
A
B
C

■ Loading Mechanism Parts Location



A
327
333
356
351
357
353
350
332
325
b
356
356
319
356
317
354
355
303
A
322
321
CN521
318
339
343
338
330
1
1
1
1
329
344
334
336
345
302
(M511)
337
335
356
CN511
a
316
323
316
356
1
1
355
354
346
409
308
320
307
326
1
309
1
342
311
1
340
310
312
331
341
356
315
318
305
313
328
304
314
401
406
406
404
402
406
401-1
306
1
348
317
349
401-1
401-1
401-2
301
(M501)
402
403
b
CN501
CN502
a
CN504
356
405
CN503
356
324
407
CN702
356
CN701
408
408

Note:

When changing mechanism parts, apply the specified grease to areas marked "X X" as shownin the drawing.

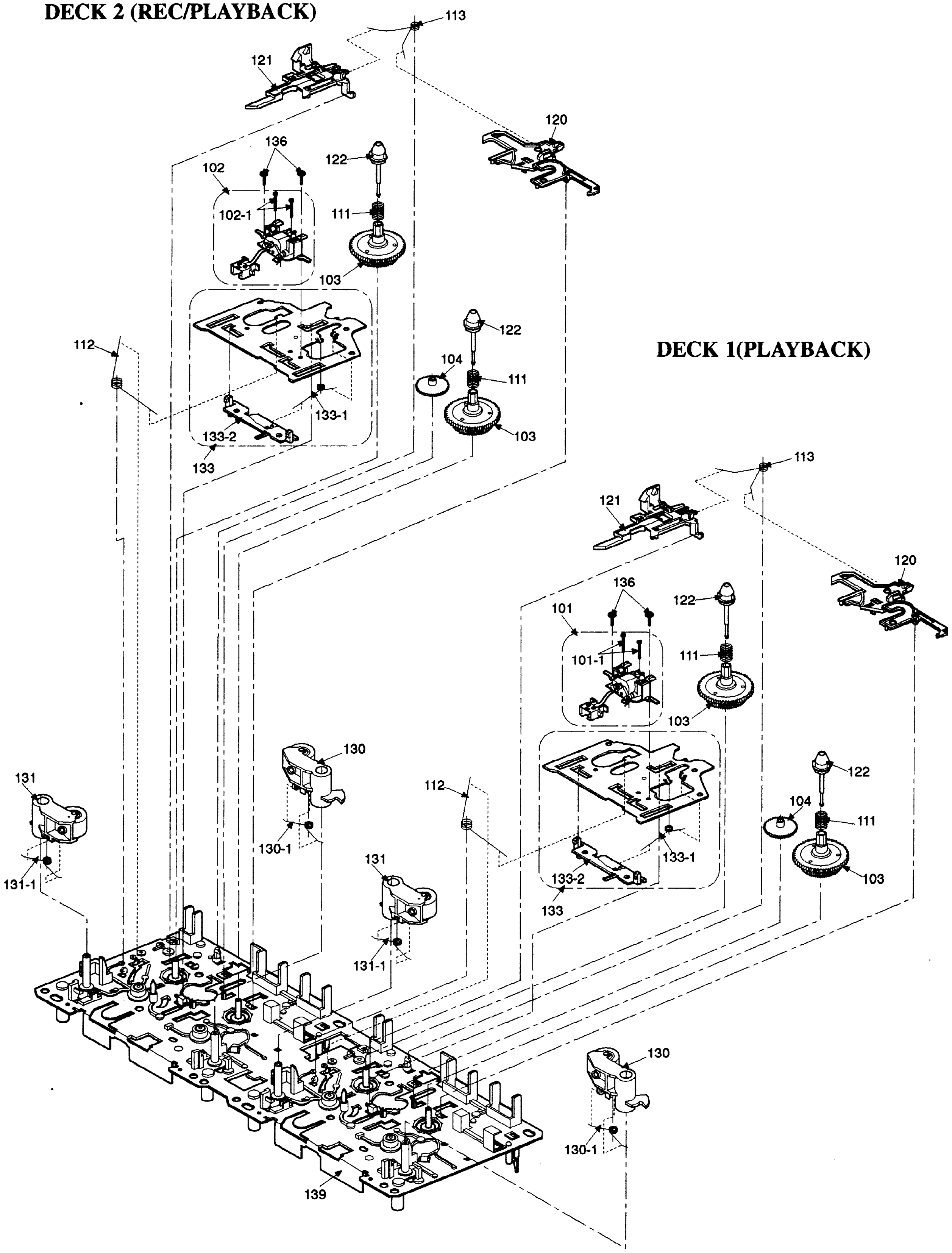
Ref. No.	Part No.
❶	RFKXPG671

■ Loading Mechanism Parts List

Note : [M] in Remarks column indicates parts that are supplied by **MESA**.

Ref No.	Part No.	Part Name & Description	Remarks
		LOADING MECHANISM	
301	RFKPLMC50PAK	LOADING MOTOR ASS'Y	
302	RFKPLMC50PBK	SLIDE MOTOR ASS'Y	
303	RDG0336	PULLEY GEAR	
304	RDG0337	REDUCTION GEAR (A)	
305	RDG0338	REDUCTION GEAR (B)	
306	RDG0339	DRIVE GEAR	
307	RDG0340	SLIDE PULLEY GEAR	
308	RDG0341	COUNT RING	
309	RDG0342	SLIDE REDUCTN GEAR	
310	RDG0343	REAR SLIDE GEAR	
311	RDG0344	SLIDE GEAR (A)	
312	RDG0345	SLIDE GEAR (B)	
313	RDG0346	FRONT SLIDE GEAR	
314	RDG0347	LOWER SLIDE GEAR	
315	RDP0080	UPPER ROLLER	
316	RDP0081	LOWER ROLLER	
317	RDP0082	ROPE ROLLER (A)	
318	RDP0083	ROPE ROLLER (B)	
319	RDV0041	LOADING BELT	
320	RDV0046	SLIDE BELT	
321	RMN0357	SENOR HOLDER	
322	RMN0358	LED HOLDER	
323	RMN0356	MOTOR HOLDER	
324	REZ0916	FFC (23P)	
325	REZ0832	FLAT CABLE (7P)	
326	RHW21009	WASHER	
327	RMB0453	FEED LEVER SPRING	
328	RMB0483	LOCK C SPRING	
329	RME0194	SUB LEVER SPRING	
330	RME0195	SIZE LEVER SPRING	
331	RME0196	RETURN LEVER SPRING	
332	RME0197	CLAMP SPRING	
333	RMG0200	CUSHION RUBBER	
334	RML0411	CONNECTION LEVER	
335	RML0412	FRONT FEED LEVER	
336	RML0413	FEED SUB LEVER	
337	RML0414	GUIDE LEVER	
338	RML0415	REAR FEED LEVER	
339	RML0416	SIZE DETECTION LEVER	
340	RML0417	RETURN LEVER (A)	
341	RML0418	RETURN LEVER (B)	
342	RFKNLMC50PBK	MECHA BASE ASS'Y	
343	RMR0921-K	LOWER SLIDE PLATE	
344	RMR0922-K	UPPER SLIDE PLATE	
345	RMR0923-W	SLIDE SUPPORT PLATE	
346	RMR0924-K	DISC GUIDE (L)	
347	RMR0925-K	DISC GUIDE (R)	
348	RMR0927-K	ROLLER BASE	
349	RMS0519	CONNECTION SHAFT	
350	RHM245ZA	MAGNET	[M]
351	RMR0334	FIXED PLATE	[M]
352	RMR0761-W	CLAMPER	
353	RMR0926-K	CLAMPER PLATE	
354	RDP0091	DISC ROLLER	
355	RDP0092	GUIDE ROLLER	
356	XTBS26+10J	SCREW	
357	XTWS3+10T	SCREW	
401	RAE0150Z	TRAVERSE DECK ASS'Y	
401-1	SHGD113-1	FLOATING RUBBER	
401-2	SNSD38	SCREW	
402	RMB0455	FRONT SUPPORT SPRING	
403	RML0423	FRONT SUPPORT ARM	
404	RML0424	REAR SUPPORT ARM	
405	RMR0937-K	TRAVERSE CHASSIS	
406	RMS0123-1	TRAVERSE FIXED PIN	
407	XTN2+6G	SCREW	
408	XTV2+6G	SCREW	
409	RME0225	LOCK PLATE SPRING	

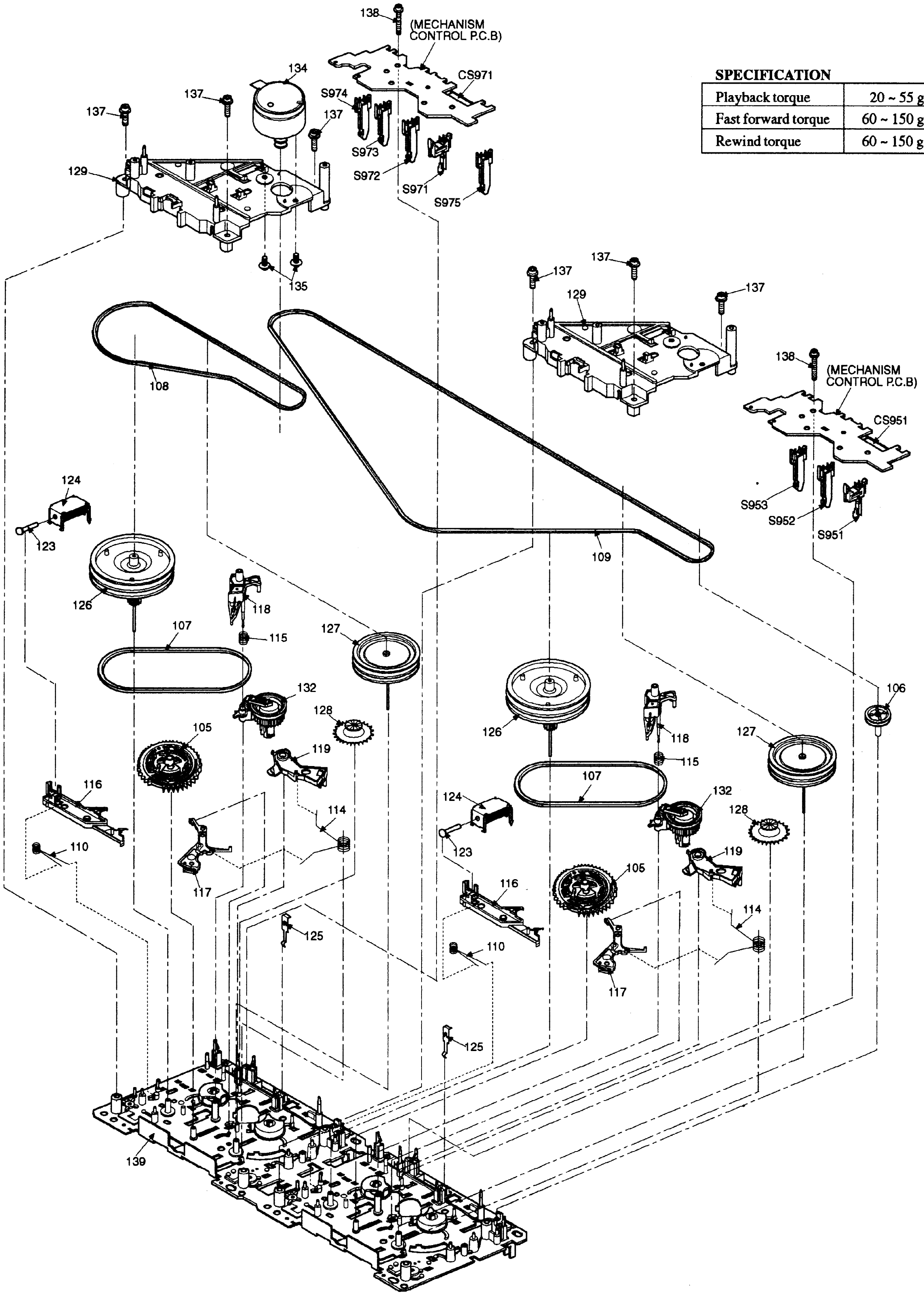
■ Mechanism Parts Location (RAA3404)



DECK 2 (REC/PLAYBACK)
DECK 1(PLAYBACK)
113
121
120
136
102
122
102-1
111
103
112
104
133-1
133-2
133
101
101-1
130
131
130-1
131-1
139

SPECIFICATION

Playback torque	20 ~ 55 g•cm
Fast forward torque	60 ~ 150 g•cm
Rewind torque	60 ~ 150 g•cm

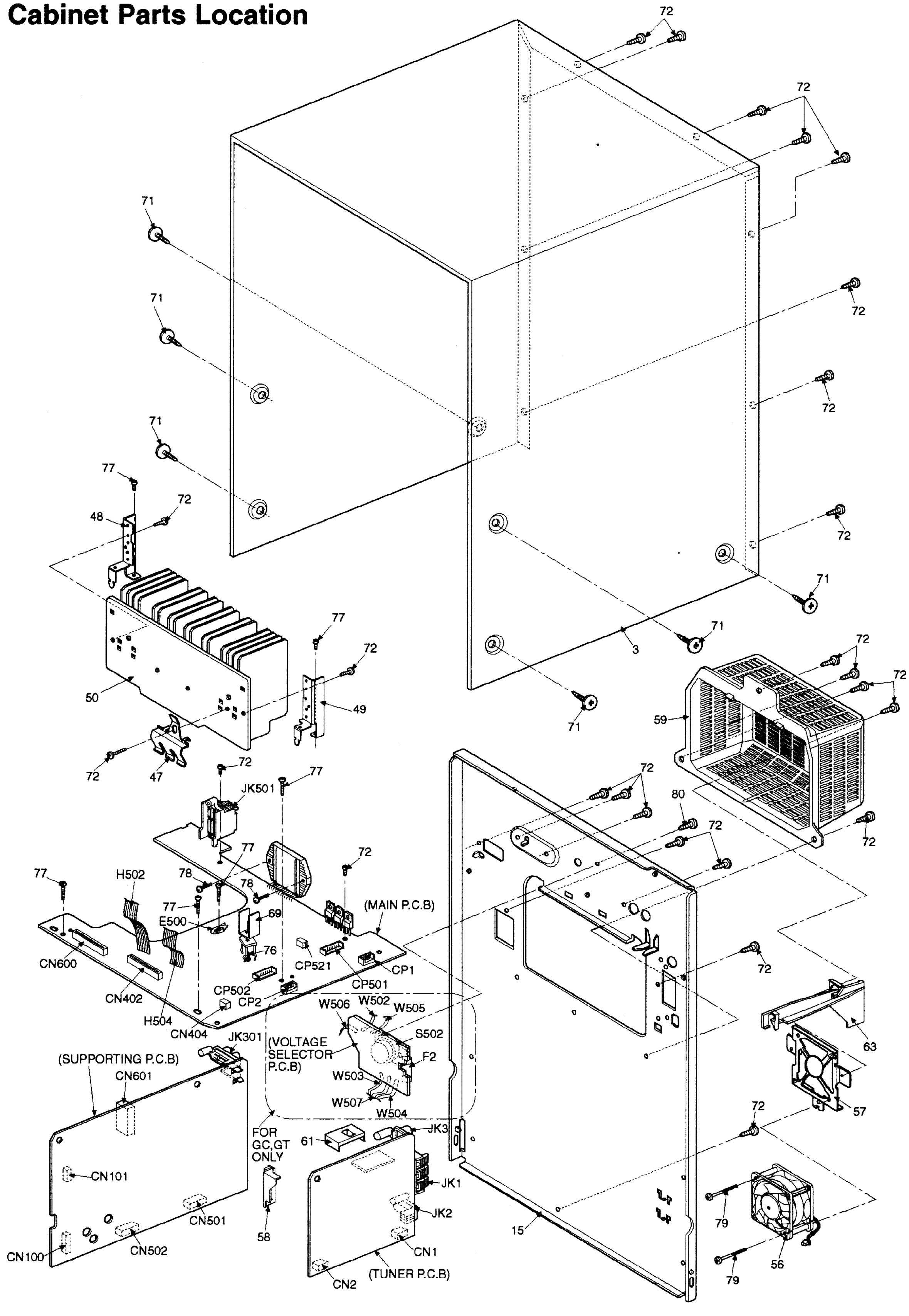

138
(MECHANISM
CONTROL P.C.B)
CS971
134
137
S974
137
137
137
S973
S972
S971
S975
129
135
137
137
137
129
138
(MECHANISM
CONTROL P.C.B)
CS951
108
109
S953
S952
S951
124
123
126
118
115
107
127
132
128
105
119
116
114
110
117
125
106
126
118
115
127
107
124
132
128
123
119
116
105
114
110
117
125
139

Mechanism Parts List

Note : [M] in Remarks column indicates parts that are supplied by **MESA**.

Ref No.	Part No.	Part Name & Description	Remarks
		CASSETTE DECK	
101	RED0038	P/B HEAD BLOCK ASS'Y	
101-1	RHE5152ZB	SCREW	
102	RED0037	R/P HEAD BLOCK ASS'Y	
102-1	RHE5152ZB	SCREW	
103	RDG0300	REEL TABLE BASE	
104	RDG0301	GEAR	
105	RDK0026	GEAR	
106	RDR0029	RELAY PULLY	
107	RDV0033-1	BELT	
108	RDV0034	BELT	
109	RDV0035	BELT	
110	RUW147ZA	SPRING	
111	RMB0400	REEL TABLE SPRING	
112	RMB0403	SPRING	
113	RMB0404	SPRING	
114	RMB0406	SPRING	
115	RMB0408	SPRING	
116	RML0370	LEVER	
117	RML0371	LEVER	
118	RML0372	ARM	
119	RML0374	LEVER	
120	RMM0131	LEVER	
121	RMM0133	LEVER	
122	RMQ0519	REEL TABLE HEAD	
123	RMS0398-1	SHAFT	
124	RSJ0003	PLUNGER	
125	RUS609ZC	SPRING	
126	RXF0049	FLYWHEEL ASS'Y	
127	RXF0050	FLYWHEEL ASS'Y	
128	RXG0040	GEAR	
129	RMK0283	PLATE	
130	RXL0124	PINCH ROLLER ASS'Y	
130-1	RMB0401	SPRING	
131	RXL0125	PINCH ROLLER ASS'Y	
131-1	RMB0402	SPRING	
132	RXL0126	GEAR	
133	RXQ0412	ROD	
133-1	RMB0405	SPRING	
133-2	RMM0132	ROD	
134	REM0055	MOTOR ASS'Y	
135	RHD26022	SCREW	
136	XTW2+5L	SCREW	
137	XTW26+10S	SCREW	
138	XYC2+JF17	SCREW	
139	RFKJXED70-K	CHASSIS ASS'Y	

Cabinet Parts Location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JK501
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H502
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77
69
(MAIN P.C.B)
E500
76
CN600
CP521
CP1
CP501
CN402
CP502
CP2
W506
W502
W505
72
H504
CN404
JK301
(VOLTAGE SELECTOR P.C.B)
S502
F2
63
(SUPPORTING P.C.B)
CN601
W503
W507
W504
57
72
FOR GC,GT ONLY
61
JK3
CN101
JK1
JK2
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CN501
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CN100
CN502
CN1
(TUNER P.C.B)
CN2
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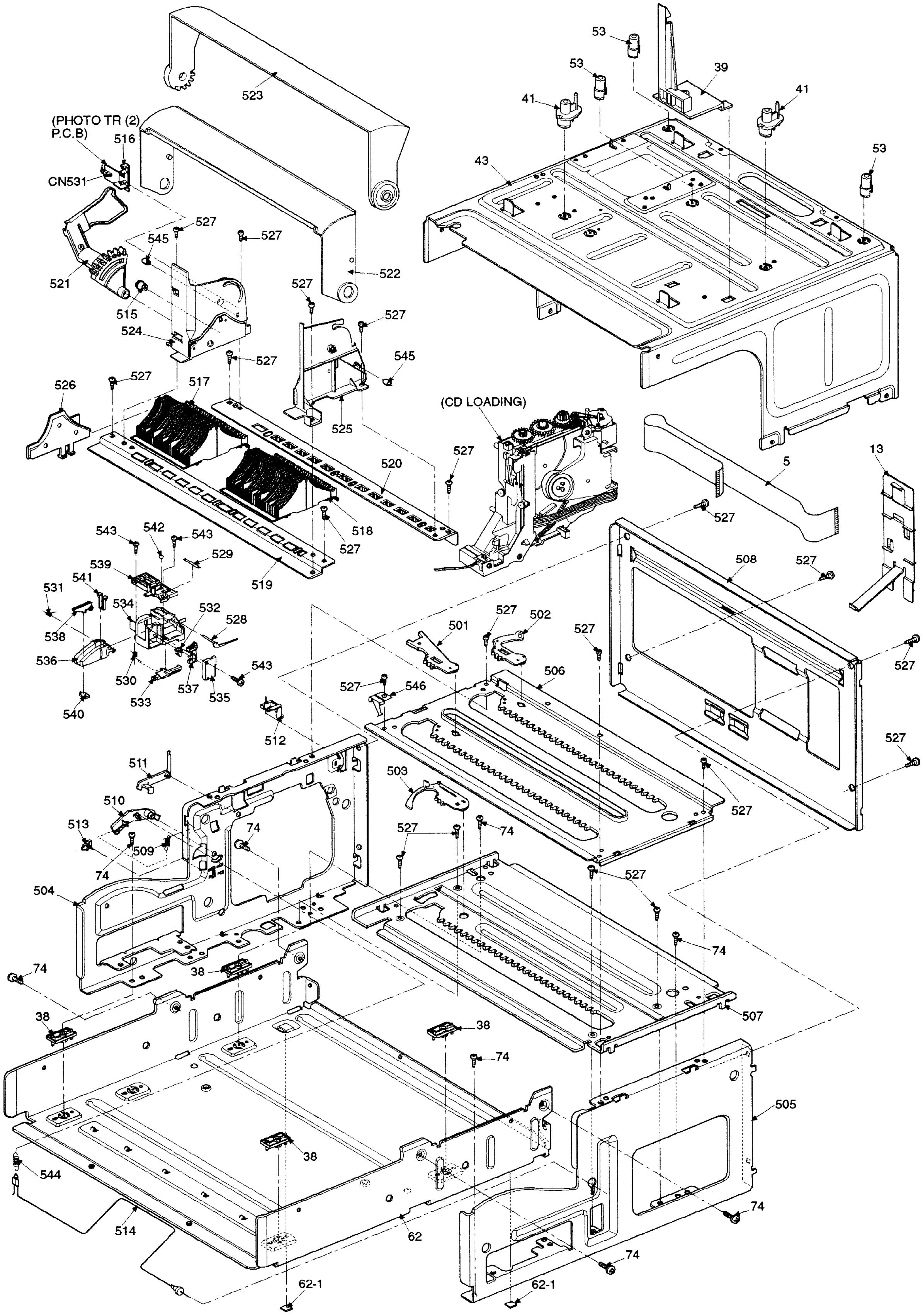
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CN531
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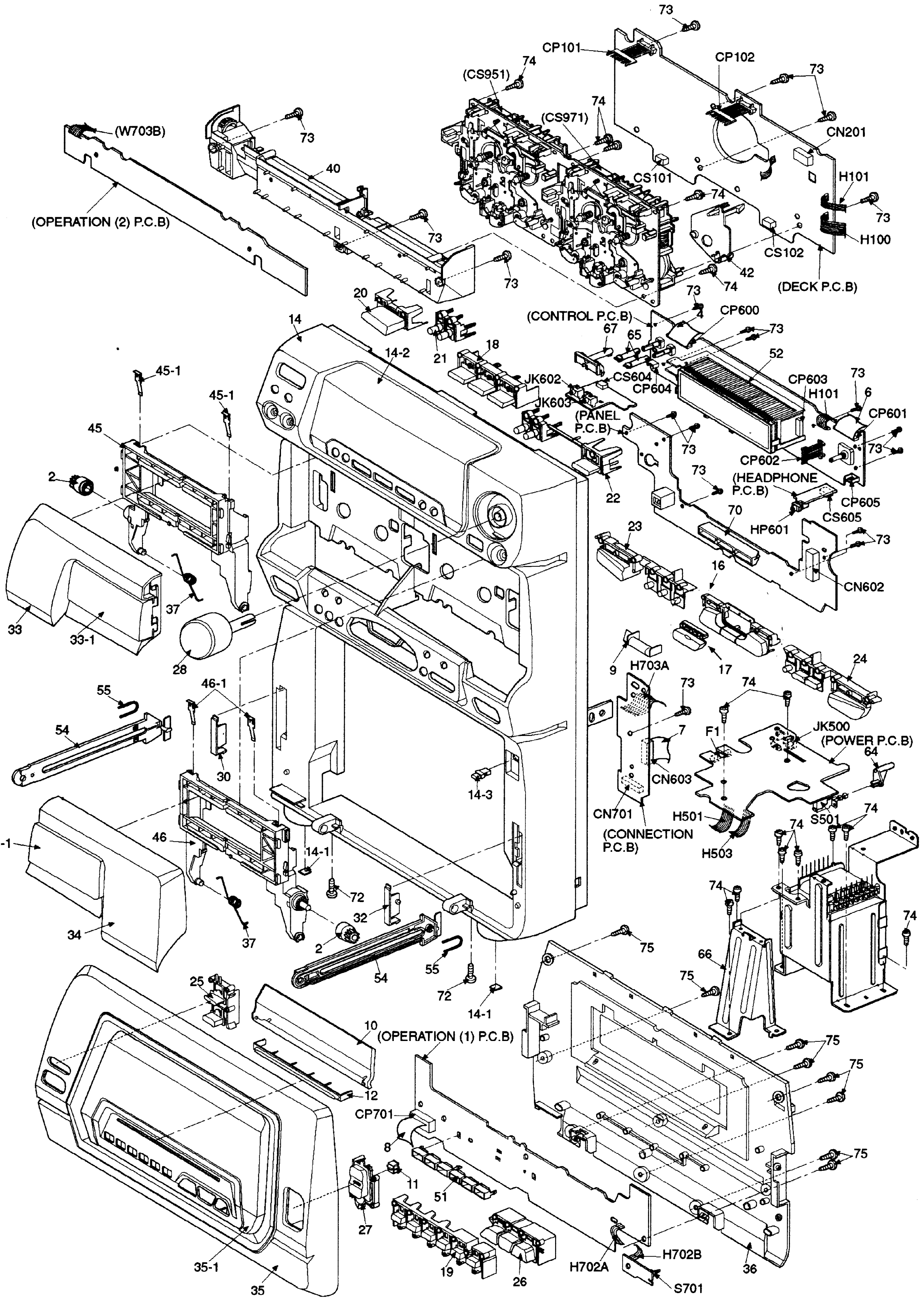
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CP101
CP102
(CS951)
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(CS971)
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(W703B)
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CN201
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H101
CS101
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73
(OPERATION (2) P.C.B)
73
H100
73
42
CS102
74
(DECK P.C.B)
73
20
(CONTROL P.C.B)
4
CP600
14
67
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73
21
18
14-2
52
JK602
CS604
CP603
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CP604
H101
6
JK603
(PANEL
P.C.B)
CP601
45-1
45-1
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73
45
CP602
2
73
(HEADPHONE
P.C.B)
22
CP605
CS605
HP601
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23
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37
33
33-1
16
CN602
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24
H703A
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73
74
46-1
54
7
JK500
F1
(POWER P.C.B)
30
64
CN603
14-3
CN701
H501
S501
74
74
(CONNECTION
P.C.B)
H503
34-1
46
14-1
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72
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14-1
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10
(OPERATION (1) P.C.B)
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75
12
CP701
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51
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H702B
35-1
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H702A
S701
36
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Replacement Parts List

Notes: * Important safety notice :

Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- * The parenthesized in the Remarks columns specify the areas. (Refer to the cover page for area.)
  Parts without these indication can be used for all areas.
- * [M] indicates parts that are supplied by **MESA**.
- * Remote Control Unit : Supply period for three years from terminal of production.
- * The "(SF)" mark denotes the standard part.
- * **Warning** : This product uses a laser diode. Refer to caution statements on page 2.
  ACHTUNG :• Die lasereinheit nicht zerlegen.
  • Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

Ref No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
2	RDG0129-1	DAMPER GEAR	[M]
3	RKM0318B-K	CABINET	[M]
4	REE0698	22P FFC	[M]
5	REE0697	32P FFC	[M]
6	REE0699	20P FFC	[M]
7	REE0700	16P FFC	[M]
8	REE0701	14P FFC	[M]
9	RMR0978-X	FFC HOLDER	
10	RGL0312-Q	CD LIGHTING PLATE	
11	RGL0313-Q	CD LIGHTING CHIP	
12	RGL0326-Q	CD LIGHTING PIECE	
13	RMR0950-K	FFC HOLDER	
14	RFKGCH94MGCK	FRONT PANEL ASS'Y	[M]
14-1	RKA0059-K	LEG RUBBER	[M]
14-2	RKW0429-V	FL WINDOW	
14-3	RMQ0215A	NS RATCH	
15	RGR0232C-A	REAR PANEL	[M](GC,GT)
15	RGR0232D-B	REAR PANEL	[M](GCS)
16	RGU1341-K	MAIN CON BUTTON (A)	[M]
17	RGU1382-K	MAIN CON BUTTON (B)	[M]
18	RGU1339-Q	TUNER LIGHTING BUTTN	
19	RGU1343-Q	CD LIGHTING BUTTON	
20	RGU1402-K	TUNER BUTTON (A)	[M]
21	RGU1403-K	TUNER BUTTON (B)	[M]
22	RGU1404-K	TUNER BUTTON (C)	[M]
23	RGU1409-K	DECK BUTTON (A)	[M]
24	RGU1410-K	DECK BUTTON (B)	[M]
25	RGU1411-K	CD BUTTON (A)	[M]
26	RGU1412-K	CD BUTTON (B)	[M]
27	RGU1413-K	CD BUTTON (C)	[M]
28	RGW0238-K	MAIN VOLUME KNOB	[M]
30	RKQ0193-K	GRIL COVER (L)	
32	RKQ0194-K	GRIL COVER (R)	
33	RFKLCH94MPK1	CASS LID ASS'Y (L)	[M]
33-1	RKW0412-Q	CASSETTE WINDOW (L)	[M]
34	RFKLCH94MPK2	CASS LID ASS'Y (R)	[M]
34-1	RKW0413-Q	CASSETTE WINDOW (R)	[M]

Ref No.	Part No.	Part Name & Description	Remarks
35	RFKGCH94MPK2	CD PANEL ASS'Y	[M]
35-1	RKW0430-Q	CD WINDOW	
36	RFKHCH94MPK1	CD REAR PANEL ASS'Y	[M]
37	RMB0474	CASS. OPEN SPRING	
38	RMN0366	CD MECHA SUPPORT	
39	RMN0367	MAIN PCB SUPPORT	
40	RMQ0577-1	DECK MECHA FLAME	
41	RMR0741-X	PCB SUPPORT (PIN)	[M]
42	RMR0909-X	DECK PCB SUPPORT	[M]
43	RMK0311	SUB CHASSISS	
45	RFKLACH330AK	CASS HOLDER ASSY (L)	[M]
45-1	RUS757ZAA	CASS. HALF SPRING	[M]
46	RFKLACH330BK	CASS HOLDER ASSY (R)	[M]
46-1	RUS757ZAA	CASS. HALF SPRING	[M]
47	RMC0238	TRANSISTOR COVER	
48	RMQ0575	HEAT SINK SUPPORT(L)	
49	RMQ0576	HEAT SINK SUPPORT(R)	
50	RXX0163	HEAT SINK UNIT	[M]
51	RMN0369	CD LED CASE	
52	RMN0364	FL HOLDER	
53	SHE187-5	PCB SUPPORT	
54	RKJ0016	SIDE STAY	
55	RME0218	STAY SPRING	[M]
56	FBA08A12M2CZ	FAN	[M]
57	RMA0996	FAN ANGLE	[M]
58	RMN0390-1	BACK-UP PIECE	[M]
59	RMV0109	HEAT SINK COVER	[M]
61	RSC0027-1	TUNER PACK	
62	RFKJCH94MPK	BOTTOM CHASSIS ASS'Y	[M]
62-1	RKA0059-K	LEG RUBBER	[M]
63	RMR1011-K	WIRE SUPPORT	[M]
64	RGU1379-K	POWER BUTTON	[M]
65	RGW0237-K	MIC KNOB	[M]
66	RMA0940	TRANS SUB ANGLE	[M]
67	RMN0365	JACK SUPPORT	
69	RMY0191	SUB HEAT SINK	[M]
70	RMN0368	TUNER LED CASE	
71	RHD30007	SCREW (TRANS)	
72	XTBS3+8JFZ1	SCREW	

Ref No.	Part No.	Part Name & Description	Remarks
73	XTBS26+10J	SCREW (PCB)	
74	XTB3+10JFZ	SCREW (H.S. SUPPORT)	
75	XTB3+8JFZ	SCREW (CD REAR PNEL)	
76	XTW3+12T	SCREW (HEAT SINK)	
77	XTB3+20J	SCREW (MAIN)	
78	XTW3+15T	SCREW (POWER IC)	
79	XTB3+30J	SCREW	
80	XYN3+C6FZ	SCREW (VOLT. SELECT)	(GC,GT)
		INTEGRATED CIRCUITS	
IC1	LA1832A	IC, IF/MPX	
IC2	LC7218	IC, PLL	
IC101	M51167BFP-TB	IC, R/P	
IC102	BA7755A	IC, SW	
IC103	CXA1102M-T4	IC, DOLBY IC	
IC104	BU4066BCF-E2	IC, ANALOG SW IC	[M]
IC105	BU2040F-E2	IC, IO EXPANDER	[M]
IC301	BU4052BCF-E2	IC, ANALOG SW	
IC302	M62422FPE1	IC, AUDIO	
IC303	M51131L-702	IC, VCA	
IC304	M5218AP	IC, BUFFER AMP	
IC305	BU2090F-E2	IC, IO EXPANDER	[M]
IC306	BU4066BCF-E2	IC, ANALOG SW IC	[M]
IC401	UPD78043A046	IC, CHANGER U-COM	
IC461	BA6247N	IC, MOTOR DRIVER	
IC501	RSN3404	IC, POWER AMP	⚠
IC502	AN78M05	IC, AMP	
IC601	M38197MA137F	IC, U-CON	[M]
IC602	TA2011S	IC, MIC AMP	
IC701	BU2090F-E2	IC, IO EXPANDER	[M]
IC741	BU2090F-E2	IC, IO EXPANDER	[M]
IC801	M65843FPE1	IC, ECHO IC	
IC951	0N2180RLC	IC,HALL	
IC971	0N2180RLC	IC,HALL	
		TRANSISTORS	
Q1	2SK544F-AC	TRANSISTOR	

Ref No.	Part No.	Part Name & Description	Remarks
Q2	2SC2786MTA	TRANSISTOR	
Q3	2SC2787FL1TA	TRANSISTOR	
Q4	2SC2787FL1TA	TRANSISTOR	
Q6	2SC2787LTA	TRANSISTOR	
Q7	RVTDTA143XST	TRANSISTOR	
Q8	2SC1740SSTA	TRANSISTOR	
Q9	2SC1740SSTA	TRANSISTOR	
Q10	2SC2785FETA	TRANSISTOR	
Q11	2SC2785FETA	TRANSISTOR	
Q12	2SC2787LTA	TRANSISTOR	
Q13	2SC2785FETA	TRANSISTOR	
Q14	2SC2785FETA	TRANSISTOR	
Q15	2SA952LTA	TRANSISTOR	[M]
Q16	2SA952LTA	TRANSISTOR	[M]
Q17	2SA952LTA	TRANSISTOR	[M]
Q18	2SA933SSTA	TRANSISTOR	
Q19	2SA933SSTA	TRANSISTOR	
Q20	2SA933SSTA	TRANSISTOR	
Q21	2SA952LTA	TRANSISTOR	[M]
Q22	2SC1740SSTA	TRANSISTOR	
Q101	2SJ164QRTA	TRANSISTOR	
Q102	2SJ164QRTA	TRANSISTOR	
Q103	2SJ164QRTA	TRANSISTOR	
Q104	2SJ164QRTA	TRANSISTOR	
Q105	BA1L4ZTA	TRANSISTOR	[M]
Q106	BA1L4ZTA	TRANSISTOR	[M]
Q107	BA1L4ZTA	TRANSISTOR	[M]
Q108	BA1L4ZTA	TRANSISTOR	[M]
Q109	BA1L3ZTA	TRANSISTOR	[M]
Q110	BA1L3ZTA	TRANSISTOR	[M]
Q115	2SD1020HTA	TRANSISTOR	[M]
Q116	2SD1020HTA	TRANSISTOR	[M]
Q117	BA1L4MTA	TRANSISTOR	[M]
Q118	2SC2785FTA	TRANSISTOR	
Q119	2SC2785FTA	TRANSISTOR	
Q120	2SC2785FTA	TRANSISTOR	
Q121	2SC2785FTA	TRANSISTOR	
Q151	BA1L4ZTA	TRANSISTOR	[M]
Q152	BA1L4ZTA	TRANSISTOR	[M]
Q153	2SC1740SLNET	TRANSISTOR	
Q154	2SC1740SLNET	TRANSISTOR	
Q171	2SD1302STA	TRANSISTOR	
Q173	BA1L4ZTA	TRANSISTOR	[M]
Q174	2SC2785FTA	TRANSISTOR	
Q175	2SD1302STA	TRANSISTOR	
Q176	2SD1302STA	TRANSISTOR	
Q179	2SC2784FTA	TRANSISTOR	[M]
Q203	2SD965RTA	TRANSISTOR	

Ref No.	Part No.	Part Name & Description	Remarks
Q204	2SK301QTA	TRANSISTOR	[M]
Q205	BA1L4ZTA	TRANSISTOR	[M]
Q206	2SB621RTA	TRANSISTOR	
Q207	2SB621RTA	TRANSISTOR	
Q208	BA1A4ZTA	TRANSISTOR	[M]
Q209	BA1A4ZTA	TRANSISTOR	[M]
Q218	BN1A4MTA	TRANSISTOR	[M]
Q220	BN1L3NTA	TRANSISTOR	[M]
Q303	RVTDTA114TST	TRANSISTOR	
Q304	RVTDTA114TST	TRANSISTOR	
Q305	2SC2785FETA	TRANSISTOR	
Q307	2SC2785FETA	TRANSISTOR	
Q308	2SC2785FETA	TRANSISTOR	
Q309	2SD1020HTA	TRANSISTOR	[M]
Q310	2SD1020HTA	TRANSISTOR	[M]
Q311	2SD1450STA	TRANSISTOR	
Q312	2SD1450STA	TRANSISTOR	
Q313	RVTDTA114TST	TRANSISTOR	
Q411	2SD1020HTA	TRANSISTOR	[M]
Q412	2SD1020HTA	TRANSISTOR	[M]
Q413	RVTDTA124EST	TRANSISTOR	
Q414	RVTDTC114EST	TRANSISTOR	
Q418	RVTDTA114EST	TRANSISTOR	
Q461	RVTDTC143TST	TRANSISTOR	
Q462	RVTDTC124EST	TRANSISTOR	[M]
Q501	2SC2785FETA	TRANSISTOR	
Q502	2SC2785FETA	TRANSISTOR	
Q503	2SB1185E	TRANSISTOR	⚠
Q504	2SA933SSTA	TRANSISTOR	⚠
Q505	2SD1762E	TRANSISTOR	[M] ⚠
Q506	2SC2001KTA	TRANSISTOR	⚠
Q507	2SD1762E	TRANSISTOR	[M] ⚠
Q508	2SD1762E	TRANSISTOR	[M] ⚠
Q509	2SA1534AQRTA	TRANSISTOR	[M] ⚠
Q510	RVTDTC114EST	TRANSISTOR	
Q511	2SD1762E	TRANSISTOR	[M] ⚠
Q512	RVTDTC114TST	TRANSISTOR	
Q513	2SD2037ETA	TRANSISTOR	[M] ⚠
Q514	2SC2785FETA	TRANSISTOR	
Q515	2SA1534AQRTA	TRANSISTOR	[M] ⚠
Q516	2SD2037ETA	TRANSISTOR	[M] ⚠
Q517	2SD2037ETA	TRANSISTOR	[M] ⚠
Q521	2SA933SSTA	TRANSISTOR	
Q522	2SA933SSTA	TRANSISTOR	
Q523	2SA933SSTA	TRANSISTOR	
Q524	2SA933SSTA	TRANSISTOR	
Q525	2SC2001KTA	TRANSISTOR	
Q526	2SB621ARTA	TRANSISTOR	

Ref No.	Part No.	Part Name & Description	Remarks
Q527	2SA933STA	TRANSISTOR	[M]
Q528	2SC2785FETA	TRANSISTOR	
Q601	RVTDTC124EST	TRANSISTOR	[M]
Q607	2SC2785FETA	TRANSISTOR	
Q624	2SC2785FETA	TRANSISTOR	
Q701	2SC2785FETA	TRANSISTOR	
Q742	RVTDTA143XST	TRANSISTOR	
Q743	RVTDTA143XST	TRANSISTOR	
Q744	RVTDTA143XST	TRANSISTOR	
Q745	RVTDTA143XST	TRANSISTOR	
Q801	2SC2785FETA	TRANSISTOR	
Q802	2SC2785FETA	TRANSISTOR	
Q803	2SC2785FETA	TRANSISTOR	
Q804	RVTDTA114TST	TRANSISTOR	
Q805	RVTDTA114TST	TRANSISTOR	
Q806	RVTDTA114TST	TRANSISTOR	
Q807	RVTDTA114TST	TRANSISTOR	
Q808	2SD1020HTA	TRANSISTOR	[M]
Q809	2SC2785FETA	TRANSISTOR	
Q810	2SC2785FETA	TRANSISTOR	
Q811	2SC2785FETA	TRANSISTOR	
Q812	RVTDTC114EST	TRANSISTOR	
		DIODES	
D1	SVC211SPA-AL	DIODE	
D2	SVC211SPA-AL	DIODE	
D3	SVC211SPA-AL	DIODE	
D4	MTZJ5R1CTA	DIODE	[M]
D5	RVD1SS133TA	DIODE	
D6	RVDSVC321	DIODE	
D7	RVDSVC321	DIODE	
D8	RVDSVC321	DIODE	
D9	RVDSVC321	DIODE	
D10	RVD1SS133TA	DIODE	
D11	RVD1SS133TA	DIODE	
D12	RVD1SS133TA	DIODE	
D13	RVD1SS133TA	DIODE	
D95	MA165TA	DIODE	
D95	MA165TA	DIODE	
D171	1SS254TA	DIODE	
D172	MTZJ4R7BTA	DIODE	
D173	1SS254TA	DIODE	
D174	MTZJ3R6BTA	DIODE	[M]
D175	1SS254TA	DIODE	
D201	1SS254TA	DIODE	
D202	1SS254TA	DIODE	
D301	MTZJ6R8CTA	DIODE	

Ref No.	Part No.	Part Name & Description	Remarks
D303	1SS254TA	DIODE	
D304	1SS254TA	DIODE	
D305	MTZJ5R1BTA	DIODE	
D306	1SS254TA	DIODE	
D461	MTZJ7R5CTA	DIODE	
D462	MTZJ5R6BTA	DIODE	
D501	1D3E	DIODE	[M]⚠
D502	1D3E	DIODE	[M] ⚠
D503	SVDS4VB20	DIODE	
D507	1SS254TA	DIODE	
D508	1D3E	DIODE	[M]
D509	1D3E	DIODE	[M]
D510	MTZJ5R1BTA	DIODE	⚠
D511	1D3E	DIODE	[M]
D512	1D3E	DIODE	[M]
D513	MA4330LTA	DIODE	⚠
D516	MTZJ15CTA	DIODE	⚠
D517	MTZJ15CTA	DIODE	
D518	MTZJ7R5CTA	DIODE	⚠
D519	MTZJ5R6CTA	DIODE	⚠
D520	MTZJ6R8ATA	DIODE	⚠
D521	1D3E	DIODE	[M]
D522	MA700TA	DIODE	
D523	1SS254TA	DIODE	
D524	MTZJ7R5GTA	DIODE	
D525	MTZJ10BTA	DIODE	
D526	1SS254TA	DIODE	
D527	MTZJ13ATA	DIODE	⚠
D528	1SS254TA	DIODE	
D531	1D3E	DIODE	[M]⚠
D532	1D3E	DIODE	[M]⚠
D533	1D3E	DIODE	[M]⚠
D534	1D3E	DIODE	[M]⚠
D535	1D3E	DIODE	[M]⚠
D536	1D3E	DIODE	[M]⚠
D559	MTZJ10BTA	DIODE	⚠
D560	1D3E	DIODE	[M]
D561	1SS254TA	DIODE	
D562	1SS254TA	DIODE	
D563	1SS254TA	DIODE	
D564	1SS254TA	DIODE	
D581	1SS254TA	DIODE	
D582	MTZJ12BTA	DIODE	⚠
D601	1SS291TA	DIODE	
D602	1SS291TA	DIODE	
D603	1SS254TA	DIODE	
D604	1SS254TA	DIODE	
D605	1SS291TA	DIODE	
D609	MTZJ5R6BTA	DIODE	
D610	MA167TA	DIODE	
D611	MA167TA	DIODE	
D612	MA167TA	DIODE	
D614	MA167TA	DIODE	
D649	1SS291TA	DIODE	
D701	LNJ301MPUJAD	DIODE	
D702	LNJ301MPUJAD	DIODE	
D703	LNJ301MPUJAD	DIODE	
D704	LNJ301MPUJAD	DIODE	
D705	LNJ301MPUJAD	DIODE	
D706	LNJ301MPUJAD	DIODE	
D707	LNJ301MPUJAD	DIODE	
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D711	LNJ301MPUJAD	DIODE	
D712	LNJ301MPUJAD	DIODE	
D713	LNJ301MPUJAD	DIODE	
D714	LNJ301MPUJAD	DIODE	
D715	LNJ301MPUJAD	DIODE	
D716	SLR-325VC	DIODE	[M]
D717	LNJ801TPSJAD	DIODE	
D718	LNJ801TPSJAD	DIODE	
D719	LNJ801TPSJAD	DIODE	
D720	LNJ801TPSJAD	DIODE	
D721	LNJ801TPSJAD	DIODE	
D722	LNJ801TPSJAD	DIODE	
D751	SLR-325MC	DIODE	
D752	SLR-325MC	DIODE	
D754	SLR-325MC	DIODE	
D755	SLR-325MC	DIODE	
D756	SLR-325MC	DIODE	
D757	SLR-325MC	DIODE	
D771	SPR505MDTT	DIODE	
D772	SPR505MDTT	DIODE	
D773	SPR505MDTT	DIODE	
D774	SPR505MDTT	DIODE	
D775	SPR505MDTT	DIODE	
D776	SPR505MDTT	DIODE	
D781	1SS254TA	DIODE	
D782	1SS254TA	DIODE	
D783	1SS254TA	DIODE	
D784	1SS254TA	DIODE	
D785	1SS254TA	DIODE	
D786	1SS254TA	DIODE	
D787	1SS254TA	DIODE	
D788	1SS254TA	DIODE	
D789	1SS254TA	DIODE	
D801	MTZJ5R6CTA	DIODE	
D802	1SS254TA	DIODE	
D803	1SS254TA	DIODE	
D804	1SS254TA	DIODE	
D805	1SS254TA	DIODE	
D806	1SS254TA	DIODE	
D807	1SS254TA	DIODE	
D808	1SS254TA	DIODE	
D971	MA165TA	DIODE	
		VARIABLE RESISTORS	
VR101	RRN6B05B24TA	VR, DECK 1 (L) PB GAIN	
VR102	RRN6B05B24TA	VR, DECK 1 (R) PB GAIN	
VR103	RRN6B05B24TA	VR, DECK 2 (L) PB GAIN	
VR104	RRN6B05B24TA	VR, DECK 2 (R) PB GAIN	
VR201	RRN6B05B73TA	VR, DECK 2 SPEED	
VR601	RRV09A03B14A	VR, ECHO	
VR602	RRV09A03B14A	VR, MIC	
VR603	RRV16B24104B	VR, JOG	
		SWITCHES	
S501	ESB-8249V	SW, POWER SWITCH	⚠
S502	ESE37263	SW, VOLTAGE SELECTOR	⚠
S701	RSH1A91ZA-A	SW, CD SWITCH	
S702	EVQ21405R	SW, SINGLE PLAY	
S704	EVQ21405R	SW, CD EDIT	
S705	EVQ21405R	SW, GROUP A	
S706	EVQ21405R	SW, GROUP B	
S707	EVQ21405R	SW, GROUP C	
S708	EVQ21405R	SW, GROUP D	
S709	EVQ21405R	SW, GROUP E	
S710	EVQ21405R	SW, GROUP F	
S711	EVQ21405R	SW, GROUP MODE	
S712	EVQ21405R	SW, GROUP ENTER	
S713	EVQ21405R	SW, SKIP/GP NAME (+)	
S714	EVQ21405R	SW, SKIP/GP NAME (-)	
S718	EVQ21405R	SW, GP NAME ENTER	
S751	EVQ21405R	SW, OPEN DECK 2	
S752	EVQ21405R	SW, OPEN DECK 1	
S753	EVQ21405R	SW, STOP/TUNING	
S754	EVQ21405R	SW, PAUSE/MEM/PLAY	
S755	EVQ21405R	SW, PLAY/FM MODE/BP	
S756	EVQ21405R	SW, REW/TUN/TIME (-)	
S757	EVQ21405R	SW, FF/TUN/TIME (+)	
S758	EVQ21405R	SW, REC START/STOP	

Ref No.	Part No.	Part Name & Description	Remarks
S759	EVQ21405R	SW, NORMAL	
S760	EVQ21405R	SW, HIGH	
S761	EVQ21405R	SW, CLOCK	
S765	EVQ21405R	SW, TIMER	
S766	EVQ21405R	SW, REV MODE	
S771	EVQ21405R	SW, POWER	
S772	EVQ21405R	SW, TIMER REC/PLAY	
S773	EVQ21405R	SW, KARAOKE	
S774	EVQ21405R	SW, DECK 1/2	
S775	EVQ21405R	SW, CD	
S776	EVQ21405R	SW, TUNER	
S777	EVQ21405R	SW, AUX	
S778	EVQ21405R	SW, EQ SPACE	
S779	EVQ21405R	SW, VBASS	
S951	RSH1A018-1U	SW,MODE DETECT	
S952	RSH1A019-2U	SW,TAPE DETECT	
S953	RSH1A019-2U	SW,Cr02 DETECT	
S971	RSH1A018-1U	SW,MODE DETECT	
S972	RSH1A019-2U	SW,TAPE DETECT	
S973	RSH1A019-2U	SW,Cr02 DETECT	
S974	RSH1A019-2U	SW,REC DETECT	
S975	RSH1A019-2U	SW,REC DETECT	
		CONNECTORS	
CN1	RJU063W07T	CONNECTOR (7P)	
CN2	RJU063W07T	CONNECTOR (7P)	
CN100	RJS1A5210	CONNECTOR (10P)	[M]
CN101	RJS1A5205	CONNECTOR (5P)	[M]
CN201	RJS8T7ZA	CONNECTOR (8P)	
CN402	RJS2A3332	CONNECTOR (32P)	
CN402	RJS2A3332	CONNECTOR (32P)	
CN404	RJS1A6603	CONNECTOR (16P)	
CN501	RJU057W009	CONNECTOR (9 P)	
CN502	RJU057W009	CONNECTOR (9 P)	
CN600	RJS1A6822	CONNECTOR (22P)	
CN601	RJS1A6820	CONNECTOR (20P)	
CN602	RJU071H09M	CONNECTOR (9 P)	
CN603	RJS1A6816	CONNECTOR (16P)	
CN701	RJS1A6814	CONNECTOR (14P)	
CP1	RJT063W07T	CONNECTOR (7 P)	
CP2	RJT063W07T	CONNECTOR (7 P)	
CP101	RJT071H09A	CONNECTOR (9 P)	
CP102	RJT071H09A	CONNECTOR (9 P)	
CP501	RJT057W009-1	CONNECTOR (9 P)	
CP502	RJT057W009-1	CONNECTOR (9 P)	
CP521	RJP2G4YA	CONNECTOR (2P)	
CP600	RJS1A6822	CONNECTOR (22P)	

Ref No.	Part No.	Part Name & Description	Remarks
CP601	RJS1A6820	CONNECTOR (20P)	
CP602	RJT071H09A	CONNECTOR (9 P)	
CP603	RJS1A6216-1	CONNECTOR (16P)	
CP604	RJT057W004-1	CONNECTOR (4 P)	
CP605	RJT057W004-1	CONNECTOR (4 P)	
CP701	RJS1A6814	CONNECTOR (14P)	
CS95	RJU071H09M1	9P CONNECTOR	[M]
CS101	RJS1A6805-J	HEAD SOCKET	[M]
CS102	RJS1A6805-J	HEAD SOCKET	[M]
CS604	RJU057W004	SOCKET (4P)	
CS605	RJU057W004	SOCKET (4P)	
CS971	RJU071H09M1	9P CONNECTOR	[M]
		COILS, TRANSFORMERS	
L1	RLQZP1R2KT-Y	INDUCTOR	
L2	RLQZPR47KT-Y	INDUCTOR	
L3	RLQZPR68KT-Y	INDUCTOR	
L4	ELEPKR68MA	INDUCTOR	
L5	ELEPKR68MA	INDUCTOR	
L6	ELELN822KL	RF CHOKE COIL	
L7	ELELN822KL	RF CHOKE COIL	
L8	RLQZP1R0KT-Y	AXIAL COIL	
L9	RL03B98-M	SW1 ANT COIL	[M]
L10	RL03B99-M	SW2 OSC COIL	[M]
L11	RL03B98-M	SW1 ANT COIL	[M]
L12	RL03B99-M	SW2 OSC COIL	[M]
L201	RL08C002M-T	BIAS OSC COIL	
L202	RLQZB470KT-D	RF CHOKE COIL	
L501	SLQY07G-40	SP. OUT COIL	
L502	SLQY07G-40	SP. OUT COIL	
L511	SLQZ650MH49	PRIMARY COIL	
L601	RLQZP3R3KT-Y	INDUCTOR	
T1	RLI2B153-M	POWER TRANSFORMER	
T500	RTP1P3E001-V	PWR TRANSFORMER ⚠	[M](GC,GT)
T500	RTP1P3E002-V	PWR TRANSFORMER ⚠	[M](GCS)
		COMP. COMBINATION	
Z1	RLA2Z002M-T	AM ANT. COIL	
Z101	EXBF7L355SYV	RADA RESISTOR	
Z771A	RCDGP1U58XD	REMOCON SENSOR	
		CERAMIC FILTERS	
CF1	RLFFETWNA01L	FM CF	
CF2	RLFFETWNA01L	FM CF	
CF3	RVFSFZ450HL3	AM CF	[M]

Ref No.	Part No.	Part Name & Description	Remarks
		OSCILLATORS	
X1	RSXZ456KM01	19KHZ OSC	
X2	RLFDFT12DD	FM RESONATOR	
X3	SVQ49U722T-S	OSC.	
X401	RSXY4M23M01T	CRYSTAL RESONATOR	
X601	RSXD32K7S02	32.768HKZ X'TAL	[M]
X602	EF0EN6004T4	CERAMIC OSC	[M]
X801	RSXB375KM01M	CERAMIC OSC	
		RELAYS	
RLY501	RSY0015M-0	RELAY	⚠
		DISPLAY TUBE	
FL601	RSL0212-F	FL	
		FUSES	
F1	XBA2C50TB0	FUSE ⚠	(GC,GT)
F1	XBA2C25TB0	FUSE ⚠	(GCS)
F2	XBA2C25TB0	FUSE ⚠	(GC,GT)
		FUSE CLIP	
FC501	EYF52BC	FUSE HOLDER	
FC502	EYF52BC	FUSE HOLDER	
FC503	SJT388	FUSE HOLDER	(GC,GT)
FC504	SJT388	FUSE HOLDER	(GC,GT)
		HOLDERS	
H100	RMR0319	10P CABLE HOLDER	[M]
H101	RMR0314	5P CABLE HOLDER	[M]
H501	RJS1A5510	WIRE HOLDER	
H502	RJS1A5510	WIRE HOLDER	
H503	RJS1A5503	CABLE HOLDER	
H504	RJS1A5503	CABLE HOLDER	
H703A	RMR0317	8P CABLE HOLDER	[M]
		JACKS	
JK1	RJH5302	JK, ANT. TERMINAL	[M](GC,GT
JK1	RJH5301	JK, ANT. TERMINAL	[M](GCS)
JK2	SJS208	JK, AM LOOP ANTENNA	
JK301	SJF3068-7N	JK, AUX JACK	

Ref No.	Part No.	Part Name & Description	Remarks
JK500	SJS9236	JK, AC INLET	⚠
JK501	RJR0054	JK, SPEAKER TERMINAL	
JK602	RJJ1D25ZA-C	JK, MIC JACK	
JK603	RJJ1D25ZA-C	JK, MIC JACK	
HP601	RJJ37TK01-1C	JK,PHONE	
		EARTH TERMINALS	
E500	SNE1004-2	EARTH TERMINAL	
		PACKING MATERIALS	
P1	RPG2791	PACKING CASE [M]	(GC,GCS)
P1	RPG2793	PACKING CASE	[M](GT)
P3	RPFX0008	POLYBAG	[M]
P4	RPN0954	POLYFOAM	
P5	SPSD152	ACCESSORY CASE	
P6	SPB1061	VINYL BAG	
		ACCESSORIES	
A1	EUR644341	REMOTE CONTROL	[M]
A1-1	UR64EC1822-3	BATTY COVER (R C)	[M]
A2	RSA0006	FM ANT	
A3	RSA0010	AM LOOP ANT	
A4	RJA0019-2K	AC CORD	(SF)⚠
A5	RQT3360-G	INSTRUCTION MANUAL	[M]
A6	RFA0622-K1	FILE BOOK	
A7	RQLA0321	NUMBER SHEET	
A8	SJP5213-2	AC CORD ADAPTOR ⚠	(GC,GCS)
		<CD MECHANISM UNIT>	
		CABINET AND CHASSIS	
501	RDG0333	FRONT LOCK GEAR	
502	RDG0334	REAR LOCK GEAR	
503	RDG0374	LOWER LOCK GEAR	
504	RMA0904	SLIDE PLATE (L)	
505	RMA0905	SLIDE PLATE (R)	
506	RMA0906	UPPER RAIL	
507	RMA0907	LOWER RAIL	
508	RMA0908	REAR SUPPORT PLATE	
509	RMB0469	LOCK ARM SPRING	
510	RML0421	STAY LOCK ARM	
511	RML0436	FRONT LOCK PLATE	
512	RML0437	REAR LOCK PLATE	
513	RMR0959-K	ROPE GUIDE	
514	RMW0007	GUARD ROPE	

Ref No.	Part No.	Part Name & Description	Remarks
515	RDG0183	DAMPER GEAR	
516	RMN0388	SINGLE SENOR HOLDER	
517	RFKNLMC50PCK	DISC STOCKER (A)	
518	RFKNLMC50PDK	DISC STOCKER (B)	
519	RMA0910	FRONT STOCKER STAND	
520	RMA0911	REAR STOCKER STAND	
521	RML0419	SHUTTER LEVER (L)	
522	RMR0930-K	SHUTTER INSIDE	
523	RMR0931-K	SHUTTER OUTSIDE	
524	RMR0932-K	SHUTTER SUPPORT (L)	
525	RMR0933-K	SHUTTER SUPPORT (R)	
526	RMR0948-H	S PARTITION PLATE	
527	XTB3+6F	SCREW	
528	RFKNLMC50PEK	EJECT PUSH LEVER	
529	RMC0291	EJECT CLICK SPRING	
530	RME0203	EJECT SLIDE SPRING	
531	RME0204	EJECT LEVER SPRING	
532	RML0438	EJECT MIDDLE LEVER	
533	RML0439	EJECT SLIDE PLATE	
534	RMR0938-K	EJECT BASE	
535	RMR0939-K	EJECT COVER	
536	RMR0940-K	EJECT LEVER	
537	RMR0941-H	EJECT BUTTON	
538	RMR0943-H	EJECT HOLD LEVER	
539	RMR0958-K	EJECT GUIDE	
540	RMR0964-K	EJECT PAD (A)	
541	RMR0965-K	EJECT PAD (B)	
542	SFYB5-32	STEEL BALL	
543	XTN2+6JFZ	SCREW	
544	RMB0454	GUARD ROPE SPRING	
545	RMG0200	CUSHION RUBBER	
546	RMC0316	SPRING PLATE	
		INTEGRATED CIRCUITS	
IC701	AN8835SBE1	IC, SERVO AMP.	
IC702	MN662741RPA	IC, SERVO PROCESSOR	
IC703	AN8389SE1	IC, COIL/MOTOR DRIVE	
		TRANSISTORS	
Q501	2SB1320AQRTA	TRANSISTOR	
Q502	2SC331AIQST	TRANSISTOR	
Q521	PT4810F	TRANSISTOR	
Q522	PT480F	TRANSISTOR	
Q523	PT480F	TRANSISTOR	
Q531	PT480F	TRANSISTOR	
Q701	2SB709S	TRANSISTOR	

Ref No.	Part No.	Part Name & Description	Remarks
		DIODES	
D501	MA165	DIODE	
D511	RSQGP1S53V	LED (SPEED SENSOR)	
D521	LN66S	LED (DISC SENSOR)	
D522	GL480V	LED (POSIT. SENSOR)	
D523	BR3433S	LED	
D531	GL480V	LED (SINGLE SENSOR)	
		SWITCHES	
S501	RSP1A017-A	LOCK DET./MLOCK	
S502	RSH1A005	CLAMP DET.	
S503	RSH1A005	CLAMP DET./FREE	
S701	RSM0006-P	SW, RESET	
		CONNECTORS	
CN501	RJS2A3332	CONNECTOR (32P)	
CN502	RJS1A6223-1	CONNECTOR (23P)	
CN503	RJT057W007-1	CONNECTOR (7P)	
CN504	RJS7T4ZA	CONNECTOR (7P)	
CN511	RJU057W007	SOCKET (7P)	
CN521	RJS7T7ZA	CONNECTOR (7P)	
CN531	SJT30344-H	CONNECTOR (3P)	
CN701	RJU035T016-1	16 PIN FFC CONNECTOR	
CN702	RJS1A6723-1Q	23 PIN FFC CONNECTOR	
		VARIABLE RESISTOR	
VR501	EVMLGGA00B14	VR, CD SENSOR	
		OSCILLATORS	
X701	RSXZ16M9M01T	CERAMIC OSC	

Resistors & Capacitors

Notes : * Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors),etc. are used.

When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- * The parenthesized in the Remarks columns specify the areas. (Refer to the cover page for area.)
  Parts without these indication can be used for all areas.
- * [M] in Remarks column indicates parts that are supplied by **MESA**.
- * Capacitor values are in microfarad (μF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
- * Resistors values are in ohms, unless specified otherwise, 1k=1,000(OHM), 1M=1,000k(OHM)
- * **Warning** : This product uses a laser diode. Refer to caution statements on page 2.
  ACHTUNG : • Die lasereinheit nicht zerlegen.
  • Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

Ref No.	Part No.	Values & Remarks
	RESISTORS	
R1	ERDS2TJ104T	100K 1/4W
R2	ERDS2TJ104T	100K 1/4W
R3	ERDS2TJ221T	220 1/4W
R4	ERDS2TJ104T	100K 1/4W
R5	ERDS2TJ564T	560K 1/4W
R6	ERDS2TJ391T	390 1/4W
R7	ERDS2TJ272T	2.7K 1/4W
R8	ERDS2TJ684T	680K 1/4W
R9	ERDS2TJ391T	390 1/4W
R10	ERDS2TJ391T	390 1/4W
R11	ERDS2TJ684T	680K 1/4W
R15	ERDS2TJ181T	180 1/4W
R16	ERDS2TJ822T	8.2K 1/4W(GC,GT)
R17	ERDS2TJ331T	330 1/4W
R18	ERDS2TJ471T	470 1/4W
R19	ERDS2TJ474T	470K 1/4W
R20	ERDS2TJ562T	5.6K 1/4W
R21	ERDS2TJ822T	8.2K 1/4W
R22	ERDS2TJ473T	47K 1/4W
R23	ERDS2TJ332T	3.3K 1/4W
R24	ERDS2TJ472T	4.7K 1/4W
R25	ERDS2TJ271T	270 1/4W
R26	ERDS2TJ471T	470 1/4W
R27	ERDS2TJ272T	2.7K 1/4W
R28	ERDS2TJ473T	47K 1/4W
R29	ERDS2TJ680T	68 1/4W
R32	ERDS2TJ272T	2.7K 1/4W
R33	ERDS2TJ272T	2.7K 1/4W
R34	ERDS2TJ103T	10K 1/4W
R35	ERDS2TJ103T	10K 1/4W
R36	ERDS2TJ474T	470K 1/4W
R37	ERDS2TJ474T	470K 1/4W
R38	ERDS2TJ272T	2.7K 1/4W
R39	ERDS2TJ272T	2.7K 1/4W
R40	ERDS2TJ391T	390 1/4W

Ref No.	Part No.	Values & Remarks
R41	ERDS2TJ102T	1K 1/4W
R42	ERDS2TJ102T	1K 1/4W
R43	ERDS2TJ102T	1K 1/4W
R44	ERDS2TJ102T	1K 1/4W
R45	ERDS2TJ102T	1K 1/4W
R46	ERDS2TJ104T	100K 1/4W
R47	ERDS2TJ562T	5.6K 1/4W
R48	ERDS2TJ391T	390 1/4W
R49	ERDS2TJ561T	560 1/4W
R50	ERDS2TJ102T	1K 1/4W
R51	ERDS2TJ103T	10K 1/4W
R52	ERDS2TJ102T	1K 1/4W
R53	ERDS2TJ102T	1K 1/4W
R54	ERDS2TJ102T	1K 1/4W
R55	ERDS2TJ102T	1K 1/4W
R56	ERDS2TJ102T	1K 1/4W
R57	ERDS2TJ103T	10K 1/4W
R58	ERDS2TJ103T	10K 1/4W
R60	ERDS2TJ563T	56K 1/4W
R61	ERDS2TJ472T	4.7K 1/4W
R63	ERDS2TJ102T	1K 1/4W
R64	ERDS2TJ820T	82 1/4W
R65	ERDS2TJ103T	10K 1/4W
R76	ERDS2TJ331T	330 1/4W
R77	ERDS2TJ474T	470K 1/4W
R80	ERDS2TJ102T	1K 1/4W
R81	ERDS2TJ332T	3.3K 1/4W
R82	ERDS2TJ103T	10K 1/4W
R83	ERDS2TJ562T	5.6K 1/4W
R84	ERDS2TJ104T	100K 1/4W
R85	ERDS2TJ104T	100K 1/4W
R86	ERDS2TJ104T	100K 1/4W
R87	ERDS2TJ104T	100K 1/4W
R88	ERDS2TJ153T	15K 1/4W
R89	ERDS2TJ103T	10K 1/4W
R90	ERDS2TJ153T	15K 1/4W
R91	ERDS2TJ333T	33K 1/4W
R92	ERDS2TJ103T	10K 1/4W

Ref No.	Part No.	Values & Remarks
R93	ERDS2TJ333T	33K 1/4W
R94	ERDS2TJ153T	15K 1/4W
R95	ERDS2TJ563T	56K 1/4W
R96	ERDS2TJ563T	56K 1/4W
R97	ERDS2TJ103T	10K 1/4W
R98	ERDS2TJ274T	270K 1/4W
R101	ERDS2TJ334T	330K 1/4W
R102	ERDS2TJ104T	100K 1/4W
R103	ERDS2TJ153T	15K 1/4W
R104	ERDS2TJ153T	15K 1/4W
R105	ERDS2TJ271T	270 1/4W
R106	ERDS2TJ222T	2.2K 1/4W
R107	ERDS2TJ330T	33 1/4W
R108	ERDS2TJ330T	33 1/4W
R109	ERDS2TJ432T	4.3K 1/4W
R110	ERDS2TJ432T	4.3K 1/4W
R111	ERDS2TJ222T	2.2K 1/4W
R112	ERDS2TJ222T	2.2K 1/4W
R113	ERDS2TJ122T	1.2K 1/4W
R114	ERDS2TJ122T	1.2K 1/4W
R115	ERDS2TJ474T	470K 1/4W
R116	ERDS2TJ474T	470K 1/4W
R117	ERDS2TJ274T	270K 1/4W
R118	ERDS2TJ274T	270K 1/4W
R121	ERDS2TJ333T	33K 1/4W
R122	ERDS2TJ333T	33K 1/4W
R123	ERDS2TJ103T	10K 1/4W
R124	ERDS2TJ103T	10K 1/4W
R125	ERDS2TJ102T	1K 1/4W
R126	ERDS2TJ102T	1K 1/4W
R127	ERDS2TJ821T	820 1/4W
R128	ERDS2TJ821T	820 1/4W
R129	ERDS2TJ822T	8.2K 1/4W
R130	ERDS2TJ822T	8.2K 1/4W
R131	ERDS2TJ683T	68K 1/4W
R132	ERDS2TJ335T	3.3M 1/4W
R133	ERDS2TJ332T	3.3K 1/4W
R134	ERDS2TJ474T	470K 1/4W

Ref No.	Part No.	Values & Remarks
R137	ERDS2TJ103T	10K 1/4W
R138	ERDS2TJ103T	10K 1/4W
R139	ERDS2TJ103T	10K 1/4W
R141	ERDS2TJ682T	6.8K 1/4W
R142	ERDS2TJ682T	6.8K 1/4W
R143	ERDS2TJ222T	2.2K 1/4W
R144	ERDS2TJ222T	2.2K 1/4W
R145	ERDS2TJ103T	10K 1/4W
R146	ERDS2TJ103T	10K 1/4W
R149	ERDS2TJ272T	2.7K 1/4W
R150	ERDS2TJ272T	2.7K 1/4W
R151	ERDS2TJ105T	1M 1/4W
R152	ERDS2TJ105T	1M 1/4W
R153	ERDS2TJ102T	1K 1/4W
R154	ERDS2TJ102T	1K 1/4W
R155	ERDS2TJ681T	680 1/4W
R156	ERDS2TJ681T	680 1/4W
R158	ERDS2TJ221T	220 1/4W
R159	ERDS2TJ222T	2.2K 1/4W
R160	ERDS2TJ222T	2.2K 1/4W
R161	ERDS2TJ472T	4.7K 1/4W
R162	ERDS2TJ472T	4.7K 1/4W
R163	ERDS2TJ433T	43K 1/4W
R165	ERDS2TJ563T	56K 1/4W
R166	ERDS2TJ104T	100K 1/4W
R167	ERDS2TJ470T	47 1/4W
R170	ERDS2TJ102T	1K 1/4W
R172	ERDS2TJ331T	330 1/4W
R173	ERDS2TJ103T	10K 1/4W
R174	ERDS2TJ103T	10K 1/4W
R176	ERDS2TJ822T	8.2K 1/4W
R177	ERDS2TJ472T	4.7K 1/4W
R178	ERDS2TJ1R2T	1.2 1/4W
R179	ERDS2TJ472T	4.7K 1/4W
R180	ERDS2TJ472T	4.7K 1/4W
R181	ERDS2TJ332T	3.3K 1/4W
R182	ERDS2TJ1R0T	1 1/4W
R183	ERDS2TJ104T	100K 1/4W

Ref No.	Part No.	Values & Remarks
R184	ERDS2TJ104T	100K 1/4W
R185	ERDS2TJ104T	100K 1/4W
R186	ERDS2TJ102T	1K 1/4W
R188	ERDS2TJ102T	1K 1/4W
R189	ERDS2TJ472T	4.7K 1/4W
R190	ERDS2TJ104T	100K 1/4W
R191	ERDS2TJ563T	56K 1/4W
R192	ERDS2TJ470T	47 1/4W
R193	ERDS2TJ104T	100K 1/4W
R194	ERDS2TJ104T	100K 1/4W
R195	ERDS2TJ104T	100K 1/4W
R206	ERDS2TJ221T	220 1/4W
R208	ERDS2TJ123T	12K 1/4W
R209	ERDS2TJ123T	12K 1/4W
R210	ERDS2TJ272T	2.7K 1/4W
R211	ERDS2TJ334T	330K 1/4W
R212	ERDS2TJ123T	12K 1/4W
R213	ERDS2TJ152T	1.5K 1/4W
R215	ERDS2TJ222T	2.2K 1/4W
R216	ERDS2TJ222T	2.2K 1/4W
R220	ERDS2TJ472T	4.7K 1/4W
R221	ERDS2TJ2R7T	2.7 1/4W
R225	ERDS2TJ2R7T	2.7 1/4W
R226	ERDS2TJ102T	1K 1/4W
R227	ERDS2TJ102T	1K 1/4W
R228	ERDS2TJ472T	4.7K 1/4W
R229	ERDS2TJ103T	10K 1/4W
R230	ERDS2TJ472T	4.7K 1/4W
R231	ERDS2TJ102T	1K 1/4W
R232	ERDS2TJ102T	1K 1/4W
R233	ERDS2TJ222T	2.2K 1/4W
R234	ERDS2TJ472T	4.7K 1/4W
R235	ERDS2TJ472T	4.7K 1/4W
R236	ERDS2TJ472T	4.7K 1/4W
R301	ERDS2TJ223T	22K 1/4W
R302	ERDS2TJ223T	22K 1/4W
R303	ERDS2TJ682T	6.8K 1/4W
R304	ERDS2TJ682T	6.8K 1/4W
R305	ERDS2TJ222T	2.2K 1/4W
R306	ERDS2TJ222T	2.2K 1/4W
R307	ERDS2TJ332T	3.3K 1/4W
R308	ERDS2TJ332T	3.3K 1/4W
R309	ERDS2TJ472T	4.7K 1/4W
R310	ERDS2TJ472T	4.7K 1/4W
R311	ERDS2TJ104T	100K 1/4W
R312	ERDS2TJ104T	100K 1/4W
R313	ERDS2TJ272T	2.7K 1/4W
R314	ERDS2TJ472T	4.7K 1/4W

Ref No.	Part No.	Values & Remarks
R315	ERDS2TJ102T	1K 1/4W
R316	ERDS2TJ222T	2.2K 1/4W
R319	ERDS2TJ221T	220 1/4W
R320	ERDS2TJ221T	220 1/4W
R321	ERDS2TJ104T	100K 1/4W
R322	ERDS2TJ104T	100K 1/4W
R323	ERDS2TJ224T	220K 1/4W
R324	ERDS2TJ224T	220K 1/4W
R325	ERDS2TJ103T	10K 1/4W
R327	ERDS2TJ105T	1M 1/4W
R328	ERDS2TJ102T	1K 1/4W
R329	ERDS2TJ332T	3.3K 1/4W
R330	ERDS2TJ332T	3.3K 1/4W
R331	ERDS2TJ101T	100 1/4W
R332	ERDS2TJ101T	100 1/4W
R333	ERDS2TJ472T	4.7K 1/4W
R334	ERDS2TJ472T	4.7K 1/4W
R335	ERDS2TJ561T	560 1/4W
R336	ERDS2TJ561T	560 1/4W
R337	ERDS1FVJ680T	68 1/2W ⚠
R338	ERDS1FVJ680T	68 1/2W ⚠
R339	ERDS2TJ152T	1.5K 1/4W
R341	ERDS2TJ472T	4.7K 1/4W
R342	ERDS2TJ472T	4.7K 1/4W
R343	ERDS2TJ182T	1.8K 1/4W
R344	ERDS2TJ182T	1.8K 1/4W
R345	ERDS2TJ332T	3.3K 1/4W
R346	ERDS2TJ332T	3.3K 1/4W
R347	ERDS2TJ152T	1.5K 1/4W
R348	ERDS2TJ152T	1.5K 1/4W
R349	ERDS2TJ473T	47K 1/4W
R350	ERDS2TJ473T	47K 1/4W
R351	ERDS2TJ102T	1K 1/4W
R352	ERDS2TJ102T	1K 1/4W
R353	ERDS2TJ104T	100K 1/4W
R354	ERDS2TJ104T	100K 1/4W
R355	ERDS2TJ122T	1.2K 1/4W
R356	ERDS2TJ122T	1.2K 1/4W
R357	ERDS2TJ104T	100K 1/4W
R358	ERDS2TJ104T	100K 1/4W
R359	ERDS2TJ123T	12K 1/4W
R360	ERDS2TJ123T	12K 1/4W
R361	ERDS2TJ102T	1K 1/4W
R362	ERDS2TJ102T	1K 1/4W
R363	ERDS2TJ102T	1K 1/4W
R364	ERDS2TJ104T	100K 1/4W
R365	ERDS2TJ105T	1M 1/4W
R366	ERDS2TJ182T	1.8K 1/4W

Ref No.	Part No.	Values & Remarks
R367	ERDS2TJ103T	10K 1/4W
R368	ERDS2TJ105T	1M 1/4W
R369	ERDS2TJ154T	150K 1/4W
R370	ERDS2TJ105T	1M 1/4W
R371	ERDS2TJ121T	120 1/4W
R372	ERDS2TJ121T	120 1/4W
R373	ERDS2TJ121T	120 1/4W
R374	ERDS2TJ121T	120 1/4W
R375	ERDS2TJ102T	1K 1/4W
R376	ERDS2TJ121T	120 1/4W
R377	ERDS2TJ121T	120 1/4W
R378	ERDS2TJ121T	120 1/4W
R379	ERDS2TJ223T	22K 1/4W
R380	ERDS2TJ223T	22K 1/4W
R381	ERDS2TJ154T	150K 1/4W
R382	ERDS2TJ472T	4.7K 1/4W
R383	ERDS2TJ682T	6.8K 1/4W
R384	ERDS2TJ153T	15K 1/4W
R385	ERDS2TJ102T	1K 1/4W
R386	ERDS2TJ272T	2.7K 1/4W
R387	ERDS2TJ152T	1.5K 1/4W
R388	ERDS2TJ473T	47K 1/4W
R389	ERDS2TJ473T	47K 1/4W
R390	ERDS2TJ221T	220 1/4W
R391	ERDS2TJ272T	2.7K 1/4W
R392	ERDS2TJ102T	1K 1/4W
R395	ERDS2TJ271T	270 1/4W
R396	ERDS2TJ271T	270 1/4W
R398	ERDS2TJ472T	4.7K 1/4W
R399	ERDS2TJ222T	2.2K 1/4W
R400	ERDS2TJ222T	2.2K 1/4W
R401	ERDS2TJ123T	12K 1/4W
R402	ERDS2TJ123T	12K 1/4W
R403	ERDS2TJ822T	8.2K 1/4W
R404	ERDS2TJ822T	8.2K 1/4W
R405	ERDS2TJ102T	1K 1/4W
R406	ERDS2TJ102T	1K 1/4W
R407	ERDS2TJ105T	1M 1/4W
R408	ERDS2TJ122T	1.2K 1/4W
R409	ERDS2TJ473T	47K 1/4W
R410	ERDS2TJ103T	10K 1/4W
R411	ERDS2TJ103T	10K 1/4W
R412	ERDS2TJ103T	10K 1/4W
R413	ERDS2TJ124T	120K 1/4W
R416	ERDS2TJ102T	1K 1/4W
R417	ERDS2TJ472T	4.7K 1/4W
R418	ERDS2TJ181T	180 1/4W
R419	ERDS2TJ472T	4.7K 1/4W

Ref No.	Part No.	Values & Remarks
R420	ERDS2TJ472T	4.7K 1/4W
R424	ERDS2TJ104T	100K 1/4W
R425	ERDS2TJ181T	180 1/4W
R454	ERDS2TJ472T	4.7K 1/4W
R461	ERDS2TJ561T	560 1/4W
R462	ERDS2TJ331T	330 1/4W
R463	ERDS2TJ821T	820 1/4W
R464	ERDS2TJ821T	820 1/4W
R465	ERDS2TJ561T	560 1/4W
R487	ERDS2TJ102T	1K 1/4W
R488	ERDS2TJ152T	1.5K 1/4W
R501	ERDS2TJ102T	1K 1/4W
R502	ERDS2TJ102T	1K 1/4W
R503	ERDS2TJ563T	56K 1/4W
R504	ERDS2TJ563T	56K 1/4W
R505	ERDS2TJ821T	820 1/4W
R506	ERDS2TJ821T	820 1/4W
R507	ERDS2TJ563T	56K 1/4W
R508	ERDS2TJ563T	56K 1/4W
R509	ERDS1FVJ100T	10 1/2W ⚠
R510	ERDS1FVJ100T	10 1/2W ⚠
R511	ERDS2TJ823T	82K 1/4W
R512	ERDS2TJ124T	120K 1/4W
R513	ERDS2TJ684T	680K 1/4W
R514	ERDS2TJ563T	56K 1/4W
R515	ERDS2TJ103T	10K 1/4W
R516	ERD2FCVG470T	47 1/4W
R517	ERDS2TJ182T	1.8K 1/4W
R518	ERDS2TJ182T	1.8K 1/4W
R519	ERDS2TJ103T	10K 1/4W
R520	ERDS2TJ564T	560K 1/4W
R521	ERDS2TJ183T	18K 1/4W
R522	ERDS2TJ473T	47K 1/4W
R523	ERDS2TJ223T	22K 1/4W
R524	ERDS2TJ103T	10K 1/4W
R525	ERDS2TJ104T	100K 1/4W
R526	ERDS2TJ335T	3.3M 1/4W
R527	ERDS2TJ273T	27K 1/4W
R528	ERDS2TJ103T	10K 1/4W
R529	ERDS2TJ103T	10K 1/4W
R530	ERDS2TJ152T	1.5K 1/4W
R531	ERDS2TJ104T	100K 1/4W
R532	ERDS2TJ101T	100 1/4W
R533	ERG1SJ220E	22 1W ⚠
R534	ERDS2TJ101T	100 1/4W
R535	ERDS2TJ104T	100K 1/4W
R536	ERDS2TJ561T	560 1/4W
R537	ERDS2TJ472T	4.7K 1/4W

Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks
R538	ERG1SJ100E	10 1W⚠	R597	ERDS1FVJ100T	10 1/2W⚠	R669	ERDS2TJ681T	680 1/4W	R729	ERDS2TJ821T	820 1/4W
R539	ERDS2TJ223T	22K 1/4W	R598	RSFMB40KT-L⚠	FUSEPROTECTOR	R670	ERDS2TJ222T	2.2K 1/4W	R730	ERDS2TJ821T	820 1/4W
R540	ERDS2TJ103T	10K 1/4W	R599	RSFMB40KT-L⚠	FUSEPROTECTOR	R671	ERDS2TJ472T	4.7K 1/4W	R731	ERDS2TJ821T	820 1/4W
R542	ERDS1FVJ390T	39 1/2W⚠	R601	ERDS2TJ103T	10K 1/4W	R672	ERDS2TJ101T	100 1/4W	R732	ERDS2TJ821T	820 1/4W
R544	ERQ16NKWR10E	0.1 1/6W	R606	ERDS2TJ224T	220K 1/4W	R673	ERDS2TJ472T	4.7K 1/4W	R738	ERDS2TJ102T	1K 1/4W
R546	ERDS1FVJ102T	1K 1/2W⚠	R609	ERDS2TJ101T	100 1/4W	R674	ERDS2TJ474T	470K 1/4W	R739	ERDS2TJ102T	1K 1/4W
R547	ERDS1FVJ102T	1K 1/2W⚠	R610	ERDS2TJ101T	100 1/4W	R675	ERDS2TJ472T	4.7K 1/4W	R740	ERDS2TJ331T	330 1/4W
R548	ERDS1FVJ102T	1K 1/2W⚠	R611	ERDS2TJ473T	47K 1/4W	R676	ERDS2TJ471T	470 1/4W	R745	ERDS2TJ331T	330 1/4W
R549	ERDS2TJ151T	150 1/4W	R612	ERDS2TJ101T	100 1/4W	R677	ERDS2TJ102T	1K 1/4W	R748	ERDS2TJ102T	1K 1/4W
R550	ERDS2TJ151T	150 1/4W	R613	ERDS2TJ102T	1K 1/4W	R681	ERDS2TJ223T	22K 1/4W	R749	ERDS2TJ102T	1K 1/4W
R551	ERDS2TJ151T	150 1/4W	R614	ERDS2TJ102T	1K 1/4W	R682	ERDS2TJ223T	22K 1/4W	R751	ERDS2TJ102T	1K 1/4W
R552	ERDS2TJ180T	18 1/4W	R615	ERDS2TJ101T	100 1/4W	R683	ERDS2TJ223T	22K 1/4W	R752	ERDS2TJ102T	1K 1/4W
R553	ERDS1FVJ330T	33 1/2W⚠	R616	ERDS2TJ224T	220K 1/4W	R684	ERDS2TJ103T	10K 1/4W	R753	ERDS2TJ122T	1.2K 1/4W
R555	ERDS2TJ221T	220 1/4W	R617	ERDS2TJ106T	10M 1/4W	R685	ERDS2TJ223T	22K 1/4W	R754	ERDS2TJ182T	1.8K 1/4W
R556	ERDS2TJ151T	150 1/4W	R618	ERDS2TJ334T	330K 1/4W	R686	ERDS2TJ223T	22K 1/4W	R755	ERDS2TJ222T	2.2K 1/4W
R557	ERDS2TJ221T	220 1/4W	R619	ERDS2TJ681T	680 1/4W	R687	ERDS2TJ330T	33 1/4W	R756	ERDS2TJ272T	2.7K 1/4W
R559	ERDS2TJ471T	470 1/4W	R620	ERDS2TJ473T	47K 1/4W	R688	ERDS2TJ102T	1K 1/4W	R757	ERDS2TJ472T	4.7K 1/4W
R560	ERDS2TJ332T	3.3K 1/4W	R621	ERDS2TJ473T	47K 1/4W	R689	ERDS2TJ473T	47K 1/4W	R758	ERDS2TJ682T	6.8K 1/4W
R561	ERDS2TJ223T	22K 1/4W	R624	ERDS2TJ104T	100K 1/4W	R690	ERDS2TJ473T	47K 1/4W	R759	ERDS2TJ103T	10K 1/4W
R562	ERDS2TJ471T	470 1/4W	R625	ERDS2TJ101T	100 1/4W	R691	ERDS2TJ473T	47K 1/4W	R760	ERDS2TJ223T	22K 1/4W
R563	ERDS2TJ273T	27K 1/4W	R626	ERDS2TJ101T	100 1/4W	R692	ERDS2TJ473T	47K 1/4W	R761	ERDS2TJ272T	2.7K 1/4W
R564	ERDS2TJ223T	22K 1/4W	R627	ERDS2TJ473T	47K 1/4W	R693	ERDS2TJ473T	47K 1/4W	R762	ERDS2TJ472T	4.7K 1/4W
R565	ERDS2TJ331T	330 1/4W	R628	ERDS2TJ473T	47K 1/4W	R694	ERDS2TJ473T	47K 1/4W	R765	ERDS2TJ471T	470 1/4W
R567	ERDS2TJ472T	4.7K 1/4W	R629	ERDS2TJ473T	47K 1/4W	R701	ERDS2TJ102T	1K 1/4W	R767	ERDS2TJ821T	820 1/4W
R568	ERDS2TJ332T	3.3K 1/4W	R630	ERDS2TJ473T	47K 1/4W	R702	ERDS2TJ102T	1K 1/4W	R769	ERDS2TJ821T	820 1/4W
R569	ERDS2TJ332T	3.3K 1/4W	R631	ERDS2TJ473T	47K 1/4W	R703	ERDS2TJ122T	1.2K 1/4W	R771	ERDS2TJ102T	1K 1/4W
R570	ERDS2TJ103T	10K 1/4W	R632	ERDS2TJ473T	47K 1/4W	R704	ERDS2TJ182T	1.8K 1/4W	R772	ERDS2TJ102T	1K 1/4W
R571	ERDS2TJ151T	150 1/4W	R633	ERDS2TJ473T	47K 1/4W	R705	ERDS2TJ222T	2.2K 1/4W	R774	ERDS2TJ182T	1.8K 1/4W
R572	ERDS2TJ472T	4.7K 1/4W	R634	ERDS2TJ473T	47K 1/4W	R706	ERDS2TJ272T	2.7K 1/4W	R775	ERDS2TJ222T	2.2K 1/4W
R573	ERDS1FVJ390T	39 1/2W⚠	R635	ERDS2TJ223T	22K 1/4W	R707	ERDS2TJ472T	4.7K 1/4W	R776	ERDS2TJ272T	2.7K 1/4W
R574	ERDS1FVJ820T	82 1/2W⚠	R636	ERDS2TJ331T	330 1/4W	R708	ERDS2TJ682T	6.8K 1/4W	R777	ERDS2TJ472T	4.7K 1/4W
R575	ERDS1FVJ101T	100 1/2W⚠	R638	ERDS2TJ103T	10K 1/4W	R709	ERDS2TJ103T	10K 1/4W	R778	ERDS2TJ682T	6.8K 1/4W
R576	ERDS2TJ122T	1.2K 1/4W	R639	ERDS2TJ103T	10K 1/4W	R710	ERDS2TJ223T	22K 1/4W	R779	ERDS2TJ103T	10K 1/4W
R577	ERDS2TJ151T	150 1/4W	R640	ERDS2TJ103T	10K 1/4W	R711	ERDS2TJ683T	68K 1/4W	R780	ERDS2TJ122T	1.2K 1/4W
R578	ERD25FVJ4R7T	4.7 1/4W	R641	ERDS2TJ103T	10K 1/4W	R712	ERDS2TJ102T	1K 1/4W	R781	ERDS2TJ221T	220 1/4W
R580	ERDS2TJ100T	10 1/4W	R642	ERDS2TJ473T	47K 1/4W	R713	ERDS2TJ102T	1K 1/4W	R782	ERDS2TJ151T	150 1/4W
R581	ERDS2TJ100T	10 1/4W	R643	ERDS2TJ473T	47K 1/4W	R714	ERDS2TJ122T	1.2K 1/4W	R783	ERDS2TJ221T	220 1/4W
R584	ERDS1FVJ102T	1K 1/2W⚠	R644	ERDS2TJ101T	100 1/4W	R715	ERDS2TJ182T	1.8K 1/4W	R784	ERDS2TJ151T	150 1/4W
R586	ERDS1FVJ4R7T	4.7 1/2W⚠	R645	ERDS2TJ101T	100 1/4W	R716	ERDS2TJ222T	2.2K 1/4W	R785	ERDS2TJ221T	220 1/4W
R587	ERDS2TJ152T	1.5K 1/4W	R646	ERDS2TJ101T	100 1/4W	R717	ERDS2TJ223T	22K 1/4W	R786	ERDS2TJ151T	150 1/4W
R588	ERDS2TJ1R0T	1 1/4W	R647	ERDS2TJ101T	100 1/4W	R721	ERDS2TJ471T	470 1/4W	R787	ERDS2TJ221T	220 1/4W
R589	ERDS2TJ1R0T	1 1/4W	R648	ERDS2TJ102T	1K 1/4W	R722	ERDS2TJ471T	470 1/4W	R788	ERDS2TJ151T	150 1/4W
R590	ERDS1FVJ6R8T	6.8 1/2W⚠	R660	ERDS2TJ103T	10K 1/4W	R723	ERDS2TJ471T	470 1/4W	R789	ERDS2TJ221T	220 1/4W
R591	ERG1SJ332E	3.3K 1W⚠ [M]	R662	ERDS2TJ102T	1K 1/4W	R724	ERDS2TJ471T	470 1/4W	R790	ERDS2TJ151T	150 1/4W
R592	ERG1SJ332E	3.3K 1W⚠ [M]	R663	ERDS2TJ681T	680 1/4W	R725	ERDS2TJ471T	470 1/4W	R791	ERDS2TJ221T	220 1/4W
R593	ERDS1FVJ2R2T	2.2 1/2W⚠	R664	ERDS2TJ681T	680 1/4W	R726	ERDS2TJ821T	820 1/4W	R792	ERDS2TJ151T	150 1/4W
R594	ERDS1FVJ4R7T	4.7 1/2W⚠	R667	ERDS2TJ124T	120K 1/4W	R727	ERDS2TJ821T	820 1/4W	R801	ERDS2TJ470T	47 1/4W
R595	ERD2FCVJ4R7T	4.7 1/4W	R668	ERDS2TJ105T	1M 1/4W	R728	ERDS2TJ821T	820 1/4W	R802	ERDS2TJ471T	470 1/4W

Ref No	Part No.	Values & Remarks
R803	ERDS2TJ472T	4.7K 1/4W
R804	ERDS2TJ105T	1M 1/4W
R805	ERDS2TJ101T	100 1/4W
R806	ERDS2TJ222T	2.2K 1/4W
R807	ERDS2TJ472T	4.7K 1/4W
R808	ERDS2TJ272T	2.7K 1/4W
R809	ERDS2TJ273T	27K 1/4W
R810	ERDS2TJ682T	6.8K 1/4W
R811	ERDS2TJ105T	1M 1/4W
R812	ERDS2TJ104T	100K 1/4W
R813	ERDS2TJ223T	22K 1/4W
R814	ERDS2TJ333T	33K 1/4W
R815	ERDS2TJ103T	10K 1/4W
R816	ERDS2TJ153T	15K 1/4W
R817	ERDS2TJ330T	33 1/4W
R818	ERDS2TJ332T	3.3K 1/4W
R819	ERDS2TJ221T	220 1/4W
R820	ERDS2TJ103T	10K 1/4W
R821	ERDS2TJ153T	15K 1/4W
R822	ERDS2TJ153T	15K 1/4W
R823	ERDS2TJ102T	1K 1/4W
R824	ERDS2TJ102T	1K 1/4W
R825	ERDS2TJ102T	1K 1/4W
R826	ERDS2TJ822T	8.2K 1/4W
R827	ERDS2TJ102T	1K 1/4W
R828	ERDS2TJ682T	6.8K 1/4W
R829	ERDS2TJ102T	1K 1/4W
R830	ERDS2TJ272T	2.7K 1/4W
R831	ERDS2TJ105T	1M 1/4W
R832	ERDS2TJ105T	1M 1/4W
R833	ERDS2TJ105T	1M 1/4W
R834	ERDS2TJ105T	1M 1/4W
R835	ERDS2TJ472T	4.7K 1/4W
R836	ERDS2TJ472T	4.7K 1/4W
R837	ERDS2TJ472T	4.7K 1/4W
R838	ERDS2TJ472T	4.7K 1/4W
R839	ERDS2TJ222T	2.2K 1/4W
R840	ERDS2TJ222T	2.2K 1/4W
R841	ERDS2TJ222T	2.2K 1/4W
R842	ERDS2TJ222T	2.2K 1/4W
R843	ERDS2TJ221T	220 1/4W
R845	ERDS2TJ104T	100K 1/4W
R846	ERDS2TJ104T	100K 1/4W
R847	ERDS2TJ104T	100K 1/4W
R848	ERDS2TJ104T	100K 1/4W
R849	ERDS2TJ103T	10K 1/4W
R952	ERDS2TJ821T	820 1/4W
R953	ERDS2TJ393T	39K 1/4W

Ref No.	Part No.	Values & Remarks
R972	ERDS2TJ821T	820 1/4W
R973	ERDS2TJ393T	39K 1/4W
	CAPACITORS	
C1	ECBT1H5R6KC5	5.6P 50V
C2	RCBS1H102KBY	1000P 50V
C3	ECBT1H2R2KC5	2.2P 50V
C4	ECBT1H181KB5	180P 50V
C5	ECBT1H5R6KC5	5.6P 50V
C6	ECBT1H3R3KC5	3.3P 50V
C7	ECBT1H4R7KC5	4.7P 50V
C8	ECBT1H3R3KC5	3.3P 50V
C9	ECBT1H2R2KC5	2.2P 50V
C10	ECBT1H180JC5	18P 50V
C11	RCBS1H102KBY	1000P 50V
C15	ECBT1C103MS5	0.01 16V
C16	ECEA1CU220B	22 16V
C17	ECBT1C103MS5	0.01 16V
C18	ECBT1H102KB5	1000P 50V
C19	ECBT1C103MS5	0.01 16V
C20	ECEA1HKA3R3B	3.3 50V
C21	ECEA0JU331B	330 6.3V
C22	ECBT1H473ZF5	0.047 50V
C23	ECEA1CU220B	22 16V
C24	ECBT1H473ZF5	0.047 50V
C25	ECEA1HKA4R7B	4.7 50V
C26	ECBT1C822MS5	8200P 16V
C27	ECQP1821JZT	820P 100V [M]
C28	ECEA1HKA010B	1 50V
C29	ECFR1C103KR	0.01 16V
C30	ECFR1C103KR	0.01 16V
C31	ECBT1H8R2KC5	8.2P 50V
C32	ECBT1H470J5	47P 50V
C33	ECEA1HKA2R2B	2.2 50V
C34	ECEA1HKA010B	1 50V
C35	ECEA1HKA010B	1 50V
C36	ECEA1HKA010B	1 50V
C37	ECEA1HKA010B	1 50V
C38	ECBT1C822MS5	8200P 16V
C39	ECBT1C822MS5	8200P 16V
C40	ECBT1H561KB5	560P 50V
C41	ECBT1H561KB5	560P 50V
C42	ECBT1C562MR5	5600P 16V
C43	ECBT1C562MR5	5600P 16V
C44	ECEA1CU101B	100 16V
C45	ECEA1HKA010B	1 50V
C46	ECEA1HKA010B	1 50V

Ref No.	Part No.	Values & Remarks
C47	ECBT1H473ZF5	0.047 50V
C48	ECBT1H8R2KC5	8.2P 50V
C49	ECBT1C103MS5	0.01 16V
C51	ECBT1C103MS5	0.01 16V
C52	ECEA25M4R7RB	4.7 25V
C53	ECBT1C103MS5	0.01 16V
C54	ECBT1H180JC5	18P 50V
C55	ECBT1H150JC5	15P 50V
C56	ECBT1H102KB5	1000P 50V
C57	ECEA0JU101B	100 6.3V
C59	ECBT1H330J5	33P 50V
C60	ECBT1H102KB5	1000P 50V
C61	ECBT1H331KB5	330P 50V
C62	ECEA1CU220B	22 16V
C63	ECBT1C103MS5	0.01 16V
C64	ECBT1C103MS5	0.01 16V
C65	ECBT1H102KB5	1000P 50V
C66	ECBT1H102KB5	1000P 50V
C67	ECBT1H102KB5	1000P 50V
C68	ECBT1H102KB5	1000P 50V
C71	ECBT1H331KB5	330P 50V
C72	ECBT1C103MS5	0.01 16V
C73	ECEA1HKA010B	1 50V
C74	ECBT1C103MS5	0.01 16V
C75	ECBT1H180JC5	18P 50V
C76	ECBT1C103MS5	0.01 16V
C77	ECQP2A222JZT	2200P 100V
C78	ECBT1H2R2KC5	2.2P 50V
C79	ECBT1H2R2KC5	2.2P 50V
C80	ECBT1C103MS5	0.01 16V
C81	ECBT1H220JC5	22P 50V
C82	ECBT1H150JC5	15P 50V
C83	ECQP2A222JZT	2200P 100V
C84	ECBT1C103MS5	0.01 16V
C85	ECBT1C103MS5	0.01 16V
C86	ECBT1H220JC5	22P 50V
C87	ECBT1H100JC5	10P 50V
C88	ECBT1C103MS5	0.01 16V
C101	ECBT1H102KB5	1000P 50V
C102	ECBT1H102KB5	1000P 50V
C103	ECBT1H681KB5	680P 50V
C104	ECFR1C223MR	0.022 16V
C105	ECBT1H681KB5	680P 50V
C106	ECBT1H681KB5	680P 50V
C108	ECEA1CKA330B	33 16V
C109	ECEA1CKA101B	100 16V
C111	ECBT1H561KB5	560P 50V
C112	ECBT1H561KB5	560P 50V

Ref No.	Part No.	Values & Remarks
C113	ECEA0JKA221B	220 6.3V
C114	ECEA0JKA221B	220 6.3V
C115	ECFR1C333JR	0.033 16V
C116	ECFR1C333JR	0.033 16V
C117	ECEA1HKA010B	1 50V
C118	ECEA1HKA010B	1 50V
C119	ECEA1HKA4R7B	4.7 50V
C120	ECEA1HKA4R7B	4.7 50V
C121	ECEA1HKA010B	1 50V
C122	ECEA1HKA010B	1 50V
C123	ECBT1H102KB5	1000P 50V
C124	ECBT1H102KB5	1000P 50V
C125	ECFR1C473MR	0.047 16V
C126	ECFR1C473MR	0.047 16V
C127	ECBT1C103MS5	0.01 16V
C128	ECBT1C103MS5	0.01 16V
C129	ECBT1H821KB5	820P 50V
C130	ECBT1H821KB5	820P 50V
C131	ECBT1H821KB5	820P 50V
C132	ECBT1H821KB5	820P 50V
C133	ECEA1HKA4R7B	4.7 50V
C134	ECEA1HKA4R7B	4.7 50V
C135	ECBT1H102KB5	1000P 50V
C136	ECBT1H102KB5	1000P 50V
C137	ECFR1C183KR	0.018 16V
C138	ECFR1C183KR	0.018 16V
C139	ECEA1HKA2R2B	2.2 50V
C140	ECEA1CKA100B	10 16V
C141	ECEA1HKA0R1B	0.1 50V
C142	ECFR1C223MR	0.022 16V
C143	ECEA1HKA4R7B	4.7 50V
C144	ECEA1HKA4R7B	4.7 50V
C145	ECEA1CKA100B	10 16V
C146	ECEA1CKA100B	10 16V
C147	ECBT1C152KR5	1500P 16V
C148	ECBT1C152KR5	1500P 16V
C150	ECEA1AKA470B	47 10V
C151	ECEA1HKA010B	1 50V
C152	ECEA1HKA010B	1 50V
C153	ECBT1H102KB5	1000P 50V
C154	ECBT1H102KB5	1000P 50V
C155	ECEA1CKA100B	10 16V
C156	ECEA1CKA100B	10 16V
C161	ECEA1CKA101B	100 16V
C162	ECEA1CU471B	470 16V
C163	ECEA1HKA010B	1 50V
C164	ECEA1HKA010B	1 50V
C165	ECEA1CKA100B	10 16V

Ref No.	Part No.	Values & Remarks
C166	ECEA1CKA100B	10 16V
C167	ECEA1HKAR68B	0.68 50V
C168	ECEA1HKAR68B	0.68 50V
C169	ECEA1HKA4R7B	4.7 50V
C170	ECEA1HKA4R7B	4.7 50V
C171	ECEA1CKA100B	10 16V
C173	ECBT1C103MS5	0.01 16V
C174	ECEA1HKA4R7B	4.7 50V
C175	ECEA1VU221B	220 10V
C176	ECQV1H473JZ3	0.047 50V
C177	ECBT1H102KB5	1000P 50V
C178	ECBT1H102KB5	1000P 50V
C179	ECBT1C103MS5	0.01 16V
C180	ECBT1C103MS5	0.01 16V
C181	ECBT1C103MS5	0.01 16V
C182	ECEA1HKA4R7B	4.7 50V
C183	ECQV1H474JZ3	0.47 50V
C184	ECQP1152JZT	1500P 100V [M]
C185	ECQP2A472JZT	4700P 100V
C186	ECEA1AKA470B	47 10V
C187	ECBT1H101KB5	100P 50V
C188	ECBT1H101KB5	100P 50V
C193	ECBT1H102KB5	1000P 50V
C194	ECBT1H102KB5	1000P 50V
C201	ECEA1CKA101B	100 16V
C202	ECBT1H104ZF5	0.1 50V
C203	ECBT1H331KB5	330P 50V
C204	ECBT1H331KB5	330P 50V
C205	ECBT1C222KR5	2200P 16V
C206	ECBT1C222KR5	2200P 16V
C301	ECBT1H101KB5	100P 50V
C302	ECBT1H101KB5	100P 50V
C303	ECBT1E103ZF5	0.01 25V
C304	ECBT1E103ZF5	0.01 25V
C305	ECBT1H101KB5	100P 50V
C306	ECBT1H101KB5	100P 50V
C308	ECBT1E223ZF5	0.022 25V
C309	ECBT1H470J5	47P 50V
C310	ECBT1H470J5	47P 50V
C311	ECBT1H104ZF5	0.1 50V
C312	ECFR1C473KR	0.047 16V
C313	ECFR1C473KR	0.047 16V
C314	ECFR1E104ZF5	0.1 25V
C315	ECEA1HKA2R2B	2.2 50V
C316	ECEA1HKA2R2B	2.2 50V
C318	ECEA1CU221B	220 16V
C319	ECFR1C104KR	0.1 16V
C320	ECFR1C104KR	0.1 16V

Ref No.	Part No.	Values & Remarks
C321	ECFR1C104KR	0.1 16V
C322	ECFR1C104KR	0.1 16V
C323	ECBT0J153MS5	0.015 6.3V
C324	ECBT0J153MS5	0.015 6.3V
C325	ECBT0J153MS5	0.015 6.3V
C326	ECBT0J153MS5	0.015 6.3V
C327	ECBT1C222MR5	2200P 16V
C328	ECBT1C222MR5	2200P 16V
C329	ECEA1HKA2R2B	2.2 50V
C330	ECEA1HKA2R2B	2.2 50V
C331	ECEA1HKAR15B	0.15 50V
C332	ECEA1HKAR15B	0.15 50V
C333	ECFR1C104KR	0.1 16V
C334	ECFR1C104KR	0.1 16V
C335	ECEA1HKA2R2B	2.2 50V
C336	ECEA1HKA2R2B	2.2 50V
C337	ECBT1E103ZF5	0.01 25V
C338	ECEA1HKA010B	1 50V
C339	ECEA1CKA220B	22 16V
C340	ECEA1EKA4R7B	4.7 25V
C341	ECEA1HKAR47B	0.47 50V
C342	ECEA1HKAR47B	0.47 50V
C343	ECEA1HKAR33B	0.33 50V
C344	ECEA1HKAR33B	0.33 50V
C345	ECEA1HKA2R2B	2.2 50V
C346	ECEA1HKA2R2B	2.2 50V
C347	ECBT1E103ZF5	0.01 25V
C348	ECBT1E103ZF5	0.01 25V
C349	ECEA1EKA4R7B	4.7 25V
C350	ECEA1EKA4R7B	4.7 25V
C351	ECBT1H101KB5	100P 50V
C352	ECBT1H101KB5	100P 50V
C353	ECBT1H270J5	27P 50V
C354	ECBT1H270J5	27P 50V
C355	ECEA1HKAR22B	0.22 50V
C356	ECEA1HKAR22B	0.22 50V
C358	ECEA0JKA470B	47 6.3V
C359	ECEA1HKA010B	1 50V
C360	ECEA1HKAR47B	0.47 50V
C361	ECBT1H101KB5	100P 50V
C362	ECBT1H101KB5	100P 50V
C363	ECFR1E104ZF5	0.1 25V
C364	ECBT1E103ZF5	0.01 25V
C365	ECBT1E103ZF5	0.01 25V
C371	ECBT1E103ZF5	0.01 25V
C372	ECBT1E103ZF5	0.01 25V
C381	ECBT1C222MR5	2200P 16V
C382	ECBT1C222MR5	2200P 16V

Ref No.	Part No.	Values & Remarks
C398	ECBT1E103ZF5	0.01 25V
C399	ECBT1E103ZF5	0.01 25V
C401	ECBT1C103NS5	0.01 16V
C402	ECA0JM471B	470 6.3V
C407	ECBT1C103NS5	0.01 16V
C408	ECBT1C103NS5	0.01 16V
C409	ECBT1C103NS5	0.01 16V
C410	ECBT1C103NS5	0.01 16V
C411	ECEA1CKA100B	10 16V
C412	ECEA1CKA100B	10 16V
C413	ECBT1E103ZF5	0.01 25V
C414	ECBT1E103ZF5	0.01 25V
C415	ECEA1HKA010B	1 50V
C422	ECBT1H102KB5	1000P 50V
C423	ECBT1H471KB5	470P 50V
C424	ECBT1H471KB5	470P 50V
C461	ECEA1VU470B	47 10V
C501	ECEA1CKA100B	10 16V
C502	ECEA1CKA100B	10 16V
C503	ECBT1H221KB5	220P 50V
C504	ECBT1H221KB5	220P 50V
C505	ECBT1H471KB5	470P 50V
C506	ECBT1H471KB5	470P 50V
C507	ECBT1H150JC5	15P 50V
C508	ECBT1H150JC5	15P 50V
C509	ECEA1EKA4R7B	4.7 25V
C510	ECEA1EKA4R7B	4.7 25V
C511	ECEA1HU330B	33 50V
C512	ECEA2AU100B	10 100V
C513	ECFR1E104ZF5	0.1 25V
C514	ECFR1E104ZF5	0.1 25V
C515	ECBT1E223ZF5	0.022 25V
C516	ECEA0JKA221B	220 6.3V
C517	ECBT1C472KR5	4700P 16V
C518	ECBT1C472KR5	4700P 16V
C521	ECEA1HKA2R2B	2.2 50V
C522	ECBT1C103MS5	0.01 16V
C523	ECEA0JKA221B	220 6.3V
C524	ECEA1CKA100B	10 16V
C525	ECEA1CKA100B	10 16V
C526	ECEA1AU221B	220 10V
C527	ECBT1C103MS5	0.01 16V
C528	ECBT0J223NS5	0.022 6.3V
C541	ECKR2H103ZF5	0.01 500V
C543	ECKR2H103ZF5	0.01 500V
C544	ECKR2H103ZF5	0.01 500V
C545	ECKR2H103ZF5	0.01 500V
C546	ECKR2H103ZF5	0.01 500V

Ref No.	Part No.	Values & Remarks
C547	ECES56V682MG	6800 56V ⚠ [M
C548	ECES56V682MG	6800 56V ⚠ [M
C549	ECEA1VU222E	2200 10V ⚠
C551	ECBT1E103ZF5	0.01 25V
C552	ECBT1E103ZF5	0.01 25V
C553	ECEA1CU101B	100 16V
C554	ECEA1VU470B	47 10V
C555	ECBT1E103ZF5	0.01 25V
C556	ECEA1CKA330B	33 16V
C557	ECBT1E103ZF5	0.01 25V
C558	ECEA1HU330B	33 50V
C559	ECBT1E103ZF5	0.01 25V
C560	ECEA1VU470B	47 10V
C561	ECBT1E103ZF5	0.01 25V
C562	ECEA1HKA010B	1 50V
C563	ECEA1EKA4R7B	4.7 25V
C564	ECBT1E103ZF5	0.01 25V
C565	ECEA1HU470B	47 50V
C566	ECKR2H103ZF5	0.01 500V
C568	ECA2AM470B	70 100V
C569	ECEA2AU100B	10 100V
C570	ECBT1E103ZF5	0.01 25V
C571	ECEA1AKA470B	47 10V
C572	ECEA1VU102E	1000 10V ⚠
C573	ECEA1CU101B	100 16V
C576	ECBT1E103ZF5	0.01 25V
C577	ECEA1HU100B	10 50V
C578	ECQE2104KF3	0.1 250V
C580	ECEA1VU102E	1000 10V ⚠
C581	ECEA1HKAR47B	0.47 50V
C601	ECBT1H561KB5	560P 50V
C602	ECBT1H561KB5	560P 50V
C603	ECBT1H561KB5	560P 50V
C604	ECBT1H561KB5	560P 50V
C605	ECBT1H561KB5	560P 50V
C606	ECBT1H561KB5	560P 50V
C607	ECBT1H561KB5	560P 50V
C608	ECBT1H101KB5	100P 50V
C609	ECEA1CKA100B	10 16V
C610	ECBT1E103ZF5	0.01 25V
C611	ECBT1H101KB5	100P 50V
C612	ECBT1H101KB5	100P 50V
C613	ECEA1HKA010B	1 50V
C614	ECEA1HKA2R2B	2.2 50V
C615	ECBT1H150JC5	15P 50V
C616	ECBT1H180JC5	18P 50V
C617	ECBT1H680J5	68P 50V
C618	ECBT1H560J5	56P 50V

Ref No.	Part No.	Values & Remarks
C619	ECBT1H680J5	68P 50V
C620	ECBT1H560J5	56P 50V
C621	ECEA1HU3R3B	3.3 50V
C623	ECEA1HKAR33B	0.33 50V
C624	ECEA0JKA101B	100 6.3V
C625	ECBT1H102KB5	1000P 50V
C626	ECEA0JU102B	1000 6.3V
C627	ECEA0JU102B	1000 6.3V
C628	ECBT1H102KB5	1000P 50V
C629	ECBT1H101KB5	100P 50V
C630	ECBT1H101KB5	100P 50V
C631	ECBT1E103ZF5	0.01 25V
C648	ECEA1HKA010B	1 50V
C654	ECEA1CKA330B	33 16V
C655	ECEA1HKA010B	1 50V
C656	ECBT1H471KB5	470P 50V
C657	ECBT1H101KB5	100P 50V
C658	ECEA1CKA100B	10 16V
C659	ECEA1HKA010B	1 50V
C660	ECBT1E103ZF5	0.01 25V
C661	ECBT1E223ZF5	0.022 25V
C662	ECEA1HKA4R7B	4.7 50V
C663	ECBT1C103MS5	0.01 16V
C664	ECEA1HKA3R3B	3.3 50V
C665	ECBT1H102KB5	1000P 50V
C666	ECBT1E223ZF5	0.022 25V
C671	ECBT1E223ZF5	0.022 25V
C689	ECEA0JKA220B	22 6.3V
C737	ECBT1H104ZF5	0.1 50V
C738	ECBT1H101KB5	100P 50V
C739	ECBT1H101KB5	100P 50V
C747	ECBT1H104ZF5	0.1 50V
C748	ECBT1H101KB5	100P 50V
C749	ECBT1H101KB5	100P 50V
C771	ECBT1C103MS5	0.01 16V
C772	ECBT1H102KB5	1000P 50V
C801	ECEA0JKA101B	100 6.3V
C802	ECBT1C103MS5	0.01 16V
C803	ECBT1H101KB5	100P 50V
C804	ECBT1H101KB5	100P 50V
C805	ECEA1CKA220B	22 16V
C806	ECEA1HKA010B	1 50V
C807	ECEA1HKA010B	1 50V
C808	ECEA1CKA100B	10 16V
C809	ECBT1H221KB5	220P 50V
C810	ECFR1C104MR	0.1 16V
C811	ECEA1CKA100B	10 16V
C812	ECBT1H221KB5	220P 50V
C813	ECFR1C223KR	0.022 16V
C814	ECFR1C333MR	0.033 16V
C815	ECBT1C222MR5	2200P 16V
C816	ECEA0JKA470B	47 6.3V
C817	ECFR1C683KR	0.068 16V
C818	ECFR1C223MR	0.022 16V
C819	ECFR1C683KR	0.068 16V
C820	ECEA1HKAR33B	0.33 50V
C821	ECEA1HKAR33B	0.33 50V
C822	ECEA1HKA010B	1 50V
C823	ECFR1C103MR	0.01 16V
C824	ECEA1CKA100B	10 16V
C825	ECEA1CKA100B	10 16V
C826	ECEA1CKA100B	10 16V
C827	ECEA1EKA4R7B	4.7 25V
C828	ECEA1CKA100B	10 16V
C829	ECEA1HKA010B	1 50V
C830	ECBT1C222MR5	2200P 16V
C831	ECEA1CU221B	220 16V
	<CD MECHANISM	**UNIT>**
	RESISTORS	
R501	ERDS2TJ103T	10K 1/4W
R502	ERDS2TJ103T	10K 1/4W
R503	ERDS2TJ102T	1K 1/4W
R701	ERJ6GEYJ4R7V	4.7 1/10W
R703	ERJ6GEYJ823	82K 1/10W
R704	ERJ6GEYJ102A	1K 1/10W
R705	ERJ6GEYJ103V	10K 1/10W
R706	ERJ6GEYJ102A	1K 1/10W
R707	ERJ6GEYJ474V	470K 1/10W
R708	ERJ6GEYJ154V	150K 1/10W
R709	ERJ6GEYJ683V	68K 1/10W
R711	ERJ6GEYJ154V	150K 1/10W
R712	ERJ6GEYJ221V	220 1/10W
R714	ERJ6GEY0R00A	0 1/10W
R717	ERJ6GEYJ101V	100 1/10W
R718	ERJ6GEYJ101V	100 1/10W
R721	ERJ6GEYJ101V	100 1/10W
R722	ERJ6GEYJ563V	56K 1/10W
R723	ERJ6GEYJ182V	1.8K 1/10W
R724	ERJ6GEYJ333V	33K 1/10W
R725	ERJ6GEYJ223V	22K 1/10W
R726	ERJ6GEYJ473V	47K 1/10W
R727	ERJ6GEYJ822V	8.2K 1/10W
R728	ERJ6GEYJ103V	10K 1/10W
R731	ERJ6GEYJ822V	8.2K 1/10W
R735	ERJ6GEYJ101V	100 1/10W
R736	ERJ6GEYJ101V	100 1/10W
R738	ERJ6GEYJ223V	22K 1/10W
R744	ERJ6GEYJ103V	10K 1/10W
R745	ERJ6GEYJ155V	1.5M 1/10W
R748	ERJ6GEYJ182V	1.8K 1/10W
R749	ERJ6GEYJ682V	6.8K 1/10W
R750	ERJ6GEYJ473V	47K 1/10W
R751	ERJ6GEYJ473V	47K 1/10W
R752	ERJ8GEYJ220V	22 1/8W
R753	ERJ6GEYJ102A	1K 1/10W
R772	ERJ6GEYJ273V	27K 1/10W
	CAPACITORS	
C501	ECBT1H221KB5	220P 50V
C701	ECEA0JKA330I	33 6.3V
C702	ECUZNE104MBN	0.1 25V
C703	ECEA0JKA101I	100 6.3V
C704	ECUZNE104MBN	0.1 25V
C705	ECUZNE104MBN	0.1 25V
C706	ECUV1H272KBN	2700P 50V
C707	ECUV1E273KBN	0.027 25V
C708	ECUV1H472KBN	4700P 50V
C709	ECUV1C473KBN	0.047 16V
C710	ECUV1H182KBN	1800P 50V
C711	ECUWNE104ZFN	0.1 25V
C712	ECUWNE104ZFN	0.1 25V
C713	ECUV1C104MBM	0.1 16V
C714	ECEA0JKA101I	100 6.3V
C716	ECUV1H561KBN	560P 50V
C717	ECUWNE104ZFN	0.1 25V
C718	ECUVNC224KBN	0.22 16V
C721	ECUV1H150JCN	15P 50V
C722	ECUV1H150JCN	15P 50V
C723	ECEA1AKA221I	220 10V
C724	ECUV1C104MBM	0.1 16V
C730	ECUWNE104ZFN	0.1 25V
C731	ECEA0JKA221I	220 6.3V
C732	ECEA0JKA221I	220 6.3V
C733	ECUZNE104MBN	0.1 25V
C734	ECEA1AKA221I	220 10V
C735	ECUWNE104ZFN	0.1 25V
C736	ECUWNE104ZFN	0.1 25V
C737	ECUWNE104ZFN	0.1 25V
C738	ECUV1C154KBN	0.15 16V
C742	ECUV1E273KBN	0.027 25V
C743	ECUWNE104ZFN	0.1 25V
C744	ECUE1E822KBN	8200P 25V
C745	ECUE1H102KBN	1000P 50V
C747	ECUE1H222KBN	2200P 50V
C748	ECUV1H471KBM	470P 50V
C749	ECUZNE104MBN	0.1 25V
C750	ECUV1C104MBM	0.1 16V
C751	ECUZNE104MBN	0.1 25V
C752	ECUE1H152KBN	1500P 50V
C753	ECUV1H471KBM	470P 50V
	CLIPS JUMPERS	
RJ701	ERJ8GEY0R00A	0 1/8W
RJ702	ERJ8GEY0R00A	0 1/8W
RJ703	ERJ8GEY0R00A	0 1/8W
RJ704	ERJ8GEY0R00A	0 1/8W
RJ707	ERJ8GEY0R00A	0 1/8W
RJ709	ERJ8GEY0R00A	0 1/8W
RJ714	ERJ8GEY0R00A	0 1/8W
RJ715	ERJ8GEY0R00A	0 1/8W
RJ716	ERJ8GEY0R00A	0 1/8W
RJ717	ERJ8GEY0R00A	0 1/8W
RJ719	ERJ8GEY0R00A	0 1/8W
RJ721	ERJ6GEY0R00A	0 1/10W
RJ722	ERJ8GEY0R00A	0 1/8W
RJ723	ERJ6GEY0R00A	0 1/10W
RJ724	ERJ6GEY0R00A	0 1/10W
RJ726	ERJ6GEY0R00A	0 1/10W
RJ727	ERJ6GEY0R00A	0 1/10W
RJ728	ERJ6GEY0R00A	0 1/10W
RJ729	ERJ6GEY0R00A	0 1/10W
RJ730	ERJ6GEY0R00A	0 1/10W
RJ731	ERJ6GEY0R00A	0 1/10W
RJ732	ERJ6GEY0R00A	0 1/10W

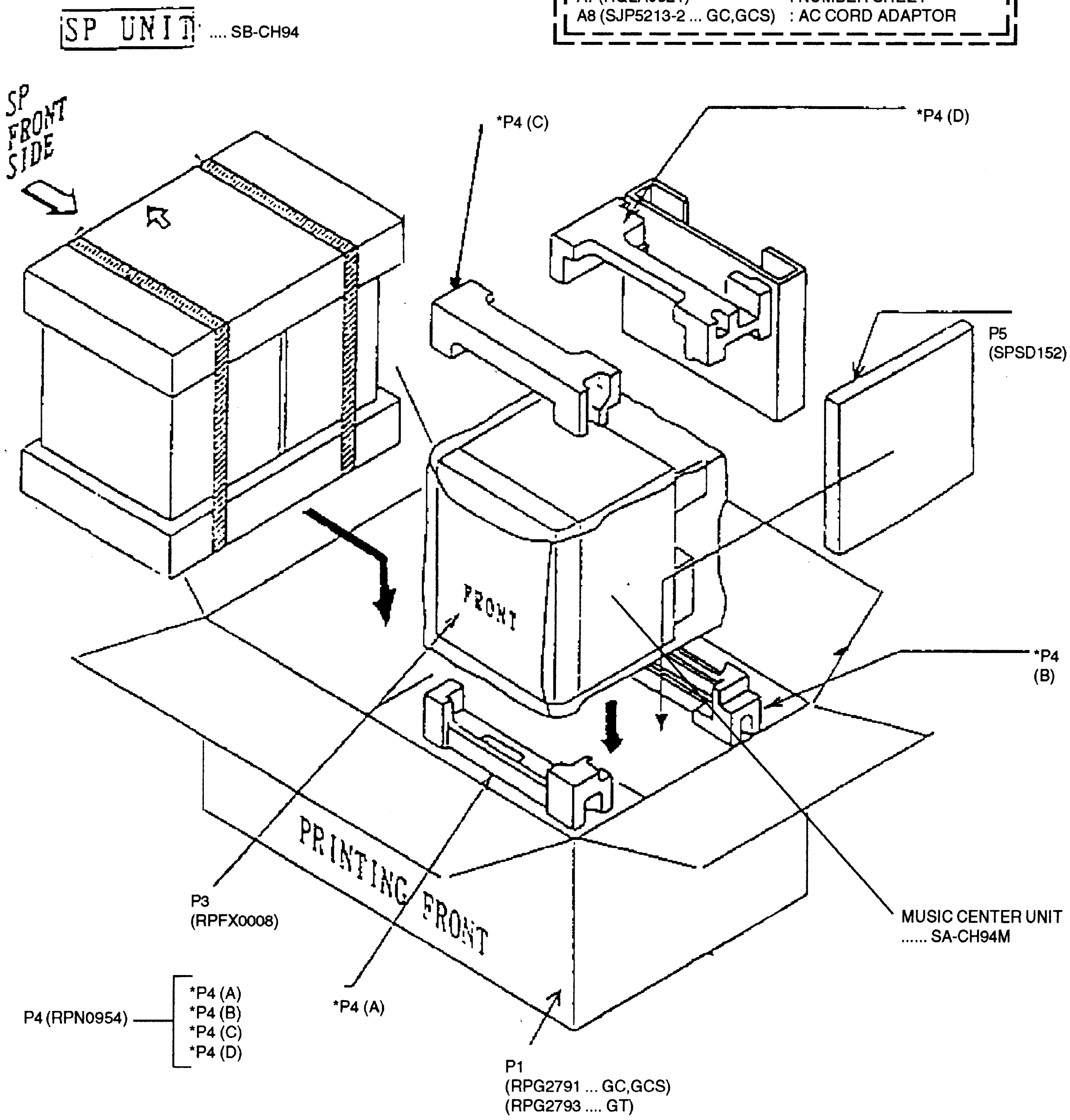
■ Packaging (Refer to page 68 for the Parts List.)

P5 (SPSD152) : ACCESSORY CASE

A1 (EUR644341) : REMOTE CONTROL UNIT
A6 (RFA0622-K1) : FILE BOOK

P6 (SPB1061) : VINYL BAG

A3 (RSA0010) : AM LOOP ANT
A4 (RJA0019-2K) : AC CORD
A2 (RSA0006) : FM ANT
A5 (RQT3360-G) : INSTRUCTION MANUAL
A7 (RQLA0321) : NUMBER SHEET
A8 (SJP5213-2 ... GC,GCS) : AC CORD ADAPTOR


SP UNIT SB-CH94
SP FRONT SIDE
*P4 (C)
*P4 (D)
P5 (SPSD152)
FRONT
*P4 (B)
PRINTING FRONT
P3 (RPFX0008)
MUSIC CENTER UNIT SA-CH94M
P4 (RPN0954)
*P4 (A)
*P4 (B)
*P4 (C)
*P4 (D)
*P4 (A)
P1
(RPG2791 ... GC,GCS)
(RPG2793 .... GT)

MESA Printed in Singapore
G960704500 S/J/F/N

ORDER NO. MD9803046S7
A6

Service Manual

Supplement 1

COMPACT disc DIGITAL AUDIO

MASH*
multi-stage noise shaping

CD Stereo System

SA-CH94M

Colour

(K) ... Black Type

Area

Suffix for Model No.	Area	Colour
(P)	U.S.A.	(K)
(PC)	Canada	
(GC)	Asia, Latin America, Africa and Middle Near East	
(GCS)	Singapore	
(GT)	Taiwan	

* MASH is a trademark of NTT.

Please file and use this Service Manual together with the Service Manual for Model No. SA-CH94M Order No. MD9512127C1 (P,PC)
MD9606041C3 (GC,GCS,GT)

Note : This Supplement Service Manual is intended to provide additional information or correction to the existing service manual for model No. SA-CH94M. Be sure to update your Service Manual for future reference.

TAPE SECTION : AR-2 MECHANISM SERIES
CD SECTION : RAE0152Z-2 TRAVERSE DECK SERIES

Panasonic®

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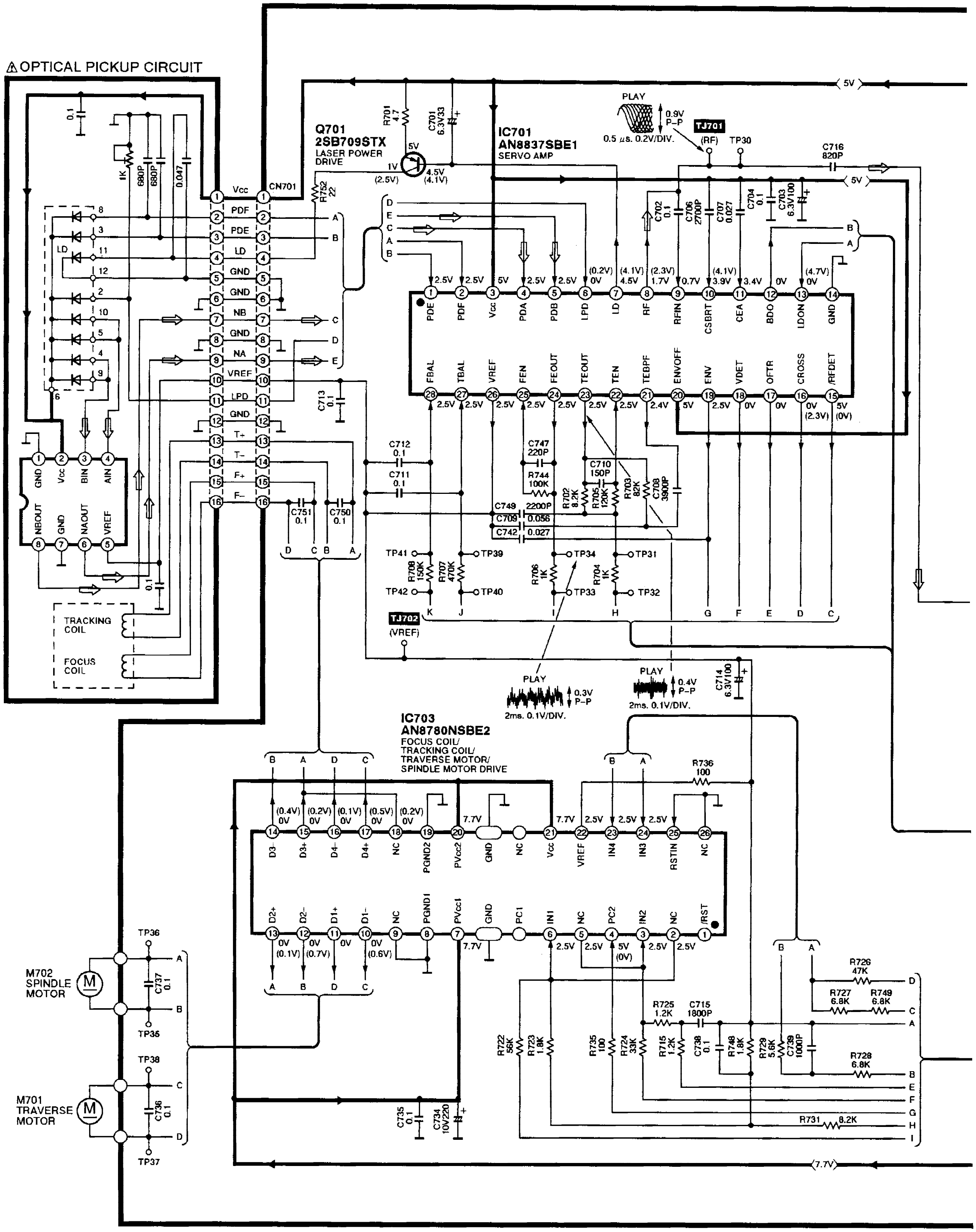
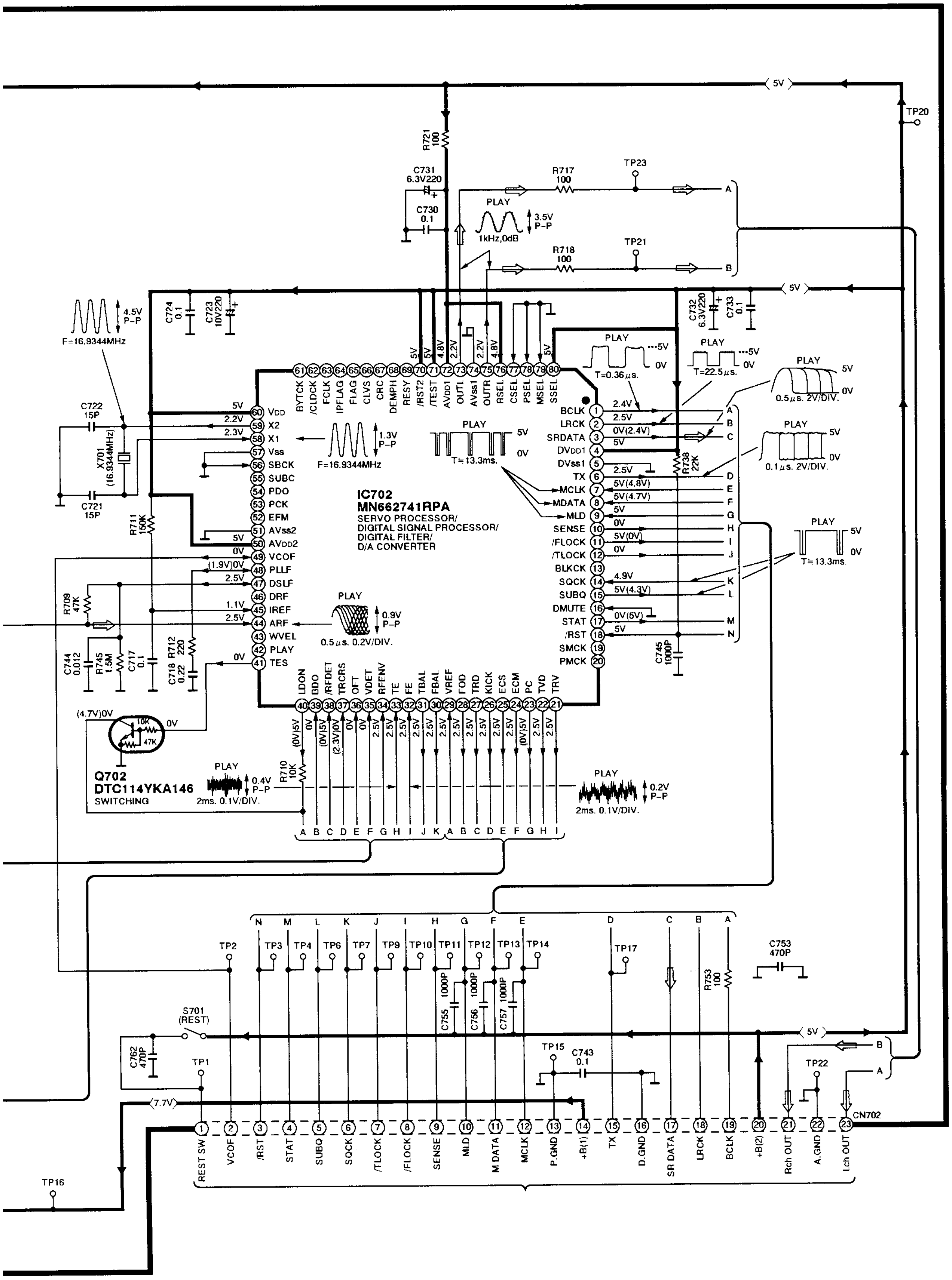
■ Schematic Diagram

A CD SERVO CIRCUIT


⚠OPTICAL PICKUP CIRCUIT
CN701
Vcc
PDF
PDE
LD
GND
NB
NA
VREF
LPD
T+
T−
F+
F−
1K
680P
680P
0.047
0.1
NBOUT
GND
NAOUT
VREF
BIN
AIN
TRACKING COIL
FOCUS COIL
Q701
2SB709STX
LASER POWER DRIVE
R701 4.7
C701 6.3V33
R752 22
IC701
AN8837SBE1
SERVO AMP
PLAY
0.9V P-P
0.5 μs. 0.2V/DIV.
TJ701
(RF)
TP30
C716 820P
5V
PDE
PDF
Vcc
PDA
PDB
LPD
LD
RF
RFIN
CSBRT
CEA
BDO
LDON
GND
FBAL
TBAL
VREF
FEN
FEOUT
TEOUT
TEN
TEBPF
ENVOFF
ENV
VDET
OFTR
CROSS
/RFDET
C702 0.1
C706 2700P
C707 0.027
C704 0.1
C703 6.3V100
C713 0.1
C712 0.1
C711 0.1
C751 0.1
C750 0.1
C747 220P
R744 100K
C710 150P
R702 8.2K
R705 120K
R703 82K
C708 390P
C749 2200P
C709 0.056
C742 0.027
TP41
TP42
R708 150K
R707 470K
TP39
TP40
R706 1K
TP34
TP33
R704 1K
TP31
TP32
TJ702
(VREF)
PLAY
0.3V P-P
2ms. 0.1V/DIV.
PLAY
0.4V P-P
2ms. 0.1V/DIV.
C714 6.3V100
IC703
AN8780NSBE2
FOCUS COIL/ TRACKING COIL/ TRAVERSE MOTOR/ SPINDLE MOTOR DRIVE
R736 100
D3−
D3+
D4−
D4+
NC
PGND2
PVcc2
GND
NC
Vcc
VREF
IN4
IN3
RSTIN
NC
D2+
D2−
D1+
D1−
NC
PGND1
PVcc1
GND
PC1
IN1
NC
PC2
IN2
NC
/RST
7.7V
TP36
M702 SPINDLE MOTOR
C737 0.1
TP35
TP38
M701 TRAVERSE MOTOR
C736 0.1
TP37
C735 0.1
C734 10V220
R726 47K
R727 6.8K
R749 6.8K
R725 1.2K
C715 1800P
R722 56K
R723 1.8K
R735 100
R724 33K
R715 1.2K
C738 0.1
R748 1.8K
R729 5.6K
C739 1000P
R728 6.8K
R731 8.2K
(7.7V)


IC702
MN662741RPA
SERVO PROCESSOR/
DIGITAL SIGNAL PROCESSOR/
DIGITAL FILTER/
D/A CONVERTER
Q702
DTC114YKA146
SWITCHING
X701 (16.9344MHz)
F=16.9344MHz
4.5V P-P
1.3V P-P
C722 15P
C721 15P
C724 0.1
C723 10V220
R711 150K
R709 47K
C744 0.012
R745 1.5M
C717 0.1
R712 220
C718 0.22
R710 10K
R721 100
C731 6.3V220
C730 0.1
R717 100
R718 100
TP23
TP21
TP20
PLAY
3.5V P-P
1kHz,0dB
C732 6.3V220
C733 0.1
R738 22K
C745 1000P
T=0.36μs.
T=22.5μs.
T≒13.3ms.
0.5μs. 2V/DIV.
0.1μs. 2V/DIV.
0.5μs. 0.2V/DIV.
0.9V P-P
0.4V P-P
0.2V P-P
2ms. 0.1V/DIV.
5V
VDD
X2
X1
VSS
SBCK
SUBC
PDO
PCK
EFM
AVSS2
AVDD2
VCOF
PLLF
DSLF
DRF
IREF
ARF
WVEL
PLAY
TES
BYTCK
/CLDCK
FCLK
IPFLAG
FLAG
CLVS
CRC
DEMPH
RESY
/RST2
/TEST
AVDD1
OUTL
AVSS1
OUTR
RSEL
CSEL
PSEL
MSEL
SSEL
BCLK
LRCK
SRDATA
DVDD1
DVSS1
TX
MCLK
MDATA
MLD
SENSE
/FLOCK
/TLOCK
BLKCK
SQCK
SUBQ
DMUTE
STAT
/RST
SMCK
PMCK
LDON
BDO
/RFDET
TRCRS
OFT
VDET
RFENV
TE
FE
TBAL
FBAL
VREF
FOD
TRD
KICK
ECS
ECM
PC
TVD
TRV
S701 (REST)
C762 470P
TP1
TP2
TP3
TP4
TP6
TP7
TP8
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TP22
C755 1000P
C756 1000P
C757 1000P
C743 0.1
C753 470P
R753 100
(7.7V)
CN702
REST SW
VCOF
/RST
STAT
SUBQ
SQCK
/TLOCK
/FLOCK
SENSE
MLD
M DATA
MCLK
P.GND
+B(1)
TX
D.GND
SR DATA
LRCK
BCLK
+B(2)
Rch OUT
A.GND
Lch OUT

■ CD Replacement Parts List

Notes: New and Original are not compatible. Use proper parts as required.
[M] Indicates in the Remarks columns indicates parts supplied by **MESA.**

Ref No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUITS	
IC701	AN8837SBE1	HEAD AMP IC	[M]
IC702	MN662741RPA	DIGITAL LSI IC	[M]
IC703	AN8780NSBE2	NIL	[M]
		TRANSISTORS	
Q701	2SA1037AKSTX	TRANSISTOR	[M]
Q702	DTC114YKA146	TRANSISTOR	[M]
		SWITCHES	
S701	RSH1A043-U	REST SWITCH	[M]
		CONNECTORS	
CN701	RJS2A6016	16 PIN FFC CONNECTOR	[M]
CN702	RJS1A6723-1Q	23 PIN FFC CONNCETOR	[M]
		OSCILLATOR	
X701	RSXZ16M9M01T	CERAMIC OSC	[M]
		CHIPJUMPERS	
RJ701	ERJ6GEY0R00A	0 1/10W	[M]
RJ702	ERJ8GEY0R00A	0 1/8W	[M]
RJ703	ERJ8GEY0R00A	0 1/8W	[M]
RJ704	ERJ8GEY0R00A	0 1/8W	[M]
RJ705	ERJ8GEY0R00A	0 1/8W	[M]
RJ706	ERJ8GEY0R00A	0 1/8W	[M]
RJ707	ERJ8GEY0R00A	0 1/8W	[M]
RJ708	ERJ8GEY0R00A	0 1/8W	[M]
RJ709	ERJ8GEY0R00A	0 1/8W	[M]
RJ710	ERJ8GEY0R00A	0 1/8W	[M]
RJ721	ERJ6GEY0R00A	0 1/10W	[M]
RJ722	ERJ6GEY0R00A	0 1/10W	[M]
RJ723	ERJ6GEY0R00A	0 1/10W	[M]
RJ724	ERJ6GEY0R00A	0 1/10W	[M]
RJ726	ERJ6GEY0R00A	0 1/10W	[M]
RJ727	ERJ6GEY0R00A	0 1/10W	[M]
RJ728	ERJ6GEY0R00A	0 1/10W	[M]
RJ732	ERJ6GEY0R00A	0 1/10W	[M]
RJ750	ERJ6GEY0R00A	0 1/10W	[M]
		TEST JUMPER	
TJ701	EYF8CU	TEST JUMPER	[M]
		MECHANISMS	
401	RAE0152Z-2	TRV UNIT	[M]
401-1	SHGD113-1	FLOATING CUSHION	[M]
401-2	SNSD38	TRV MOTOR ASS'Y SCRE	[M]
405	RMR0937-K	TRV CHASSIS	[M]
406	RMS0123-1	FIXED PIN B	[M]
407	XTN2+6G	PCB SCREW	[M]
408	RMS0350	FIXED PIN A	[M]

■ Resistors & Capacitors (Servo P.C.B.)

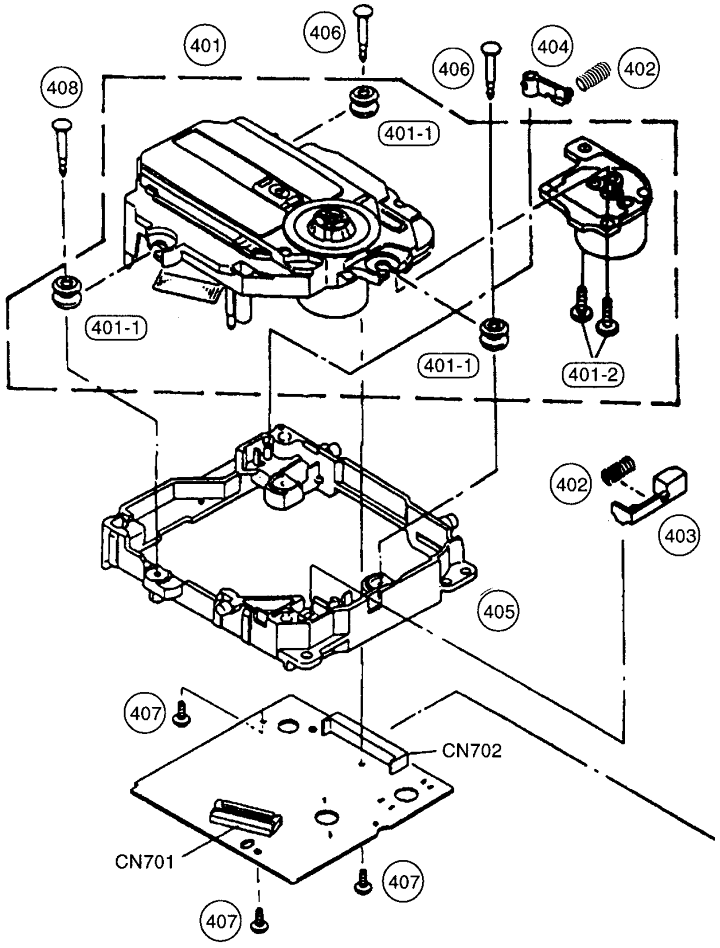
Notes : * Capacitor values are in microfarad (µF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
* Resistors values are in ohms, unless specified otherwise, 1k=1,000(OHM), 1M=1,000k(OHM)

Ref No.	Part No.	Values & Remarks
		<SERVO P.C.B.>
		RESISTORS
R701	ERJ6GEYJ4R7A	4.7 1/10W [M]
R702	ERJ6GEYJ822A	8.2K 1/10W [M]
R703	ERJ6GEYJ823A	82K 1/10W [M]
R704	ERJ6GEYJ102A	1K 1/10W [M]
R705	ERJ6GEYJ124A	120K 1/10W [M]
R706	ERJ6GEYJ102A	1K 1/10W [M]
R707	ERJ6GEYJ474A	470K 1/10W [M]
R708	ERJ6GEYJ154A	150K 1/10W [M]
R709	ERJ6GEYJ473A	47K 1/10W [M]
R710	ERJ6GEYJ103A	10K 1/10W [M]
R711	ERJ6GEYJ154A	150K 1/10W [M]
R712	ERJ6GEYJ221A	220 1/10W [M]
R715	ERJ6GEYJ122A	1.2K 1/10W [M]
R717	ERJ6GEYJ101A	100 1/10W [M]
R718	ERJ6GEYJ101A	100 1/10W [M]
R721	ERJ6GEYJ101A	100 1/10W [M]
R722	ERJ6GEYJ563A	56K 1/10W [M]
R723	ERJ6GEYJ182A	1.8K 1/10W [M]
R724	ERJ6GEYJ333A	33K 1/10W [M]
R725	ERJ6GEYJ122A	1.2K 1/10W [M]
R726	ERJ6GEYJ473A	47K 1/10W [M]
R727	ERJ6GEYJ682A	6.8K 1/10W [M]
R728	ERJ6GEYJ682A	6.8K 1/10W [M]
R729	ERJ6GEYJ562A	5.6K 1/10W [M]
R731	ERJ6GEYJ822A	8.2K 1/10W [M]
R735	ERJ6GEYJ101A	100 1/10W [M]
R736	ERJ6GEYJ101A	100 1/10W [M]
R738	ERJ6GEYJ223A	22K 1/10W [M]
R744	ERJ6GEYJ104A	100K 1/10W [M]
R745	ERJ6GEYJ155A	1.5M 1/10W [M]
R748	ERJ6GEYJ182A	1.8K 1/10W [M]
R749	ERJ6GEYJ682A	6.8K 1/10W [M]
R752	ERJ8GEYJ220A	22 1/8W [M]
R753	ERJ6GEYJ102A	1K 1/10W [M]

Ref No.	Part No.	Values & Remarks
		CAPACITORS
C701	ECEA0JKA330I	33 6.3V [M]
C702	ECUZ1E104MBN	0.1 25V [M]
C703	ECEA0JKA101I	100 6.3V [M]
C704	ECUZ1E104MBN	0.1 25V [M]
C706	ECUZ1H272KBN	2700P 50V [M]
C707	ECUZ1E273KBN	0.027 25V [M]
C708	ECUZ1H392KBN	3900P 50V [M]
C709	ECUZ1E563KBN	0.056 25V [M]
C710	ECUV1H151KCN	150P 50V [M]
C711	ECUZ1E104ZFN	0.1 25V [M]
C712	ECUZ1E104ZFN	0.1 25V [M]
C713	ECUZ1E104MBN	0.1 25V [M]
C714	ECEA0JKA101I	100 6.3V [M]
C715	ECUZ1H182KBN	1800P 50V [M]
C716	ECUZ1H821KBN	820P 50V [M]
C717	ECUZ1E104ZFN	0.1 25V [M]
C718	ECUZ1C224KBN	0.22 16V [M]
C721	ECUZ1H150JCN	15P 50V [M]
C722	ECUZ1H150JCN	15P 50V [M]
C723	ECEA1AKA221I	220 10V [M]
C724	ECUZ1E104MBN	0.1 25V [M]
C730	ECUZ1E104ZFN	0.1 25V [M]
C731	ECEA0JKA221I	220 6.3V [M]
C732	ECEA0JKA221I	220 6.3V [M]
C733	ECUZ1E104MBN	0.1 25V [M]
C734	ECEA1AKA221I	220 10V [M]
C735	ECUZ1E104ZFN	0.1 25V [M]
C736	ECUZ1E104ZFN	0.1 25V [M]
C737	ECUZ1E104ZFN	0.1 25V [M]
C738	ECUZ1E104MBN	0.1 25V [M]
C739	ECUZ1H102KBN	1000P 50V [M]
C742	ECUZ1E273KBN	0.027 25V [M]
C743	ECUZ1E104ZFN	0.1 25V [M]
C744	ECUZ1E123KBN	0.012 25V [M]
C745	ECUZ1H102KBN	1000P 50V [M]
C747	ECUV1H221KBN	220P 50V [M]
C749	ECUZ1H222KBN	2200P 50V [M]
C750	ECUZ1E104MBN	0.1 25V [M]
C751	ECUZ1E104MBN	0.1 25V [M]
C753	ECUZ1H471KBM	470P 50V [M]
C755	ECUZ1H102KBN	1000P 50V [M]

Ref No.	Part No.	Values & Remarks
C756	ECUZ1H102KBN	1000P 50V [M]
C757	ECUZ1H102KBN	1000P 50V [M]
C762	ECUZ1H471KBN	470P 50V [M]

■ CD Loading Unit Parts Location


401
406
406
404
402
408
401-1
401-1
401-1
401-2
402
403
405
407
CN702
CN701
407
407